EDUCATIONAL REVIEW

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I

THE ENDOWMENT OF MEDICAL RESEARCH[1]

The support of hospitals has always made a strong appeal to the philanthropy of the State and of individual citizens, and the importance to the community of educated physicians has been appreciated, altho in this country until recent years most inadequately, but the recognition of medical science as a rewarding object of public and private endowment is almost wholly the result of discoveries in this department of knowledge made during the last quarter of a century. The establishment, in 1901, of the Rockefeller Institute for Medical Research, with its laboratories formally opened today, bears eloquent witness to the awakening of this enlightened and beneficent sentiment.

While the scientific study of infectious diseases is of course not of recent origin and had been pursued as a part of the functions of health departments and of university laboratories of hygiene and of pathology, the first provision of a special laboratory for this purpose was made by the German Government in 1880, in the Imperial Health Office in Berlin, and to the directorship of this laboratory was called from his country practice Robert Koch, who four years before had startled the scientific world by his memorable investigations of anthrax.

The supremacy of Germany in science is due above all to its laboratories, and no more fruitful record of scientific discoveries within the same space of time can be found than that

[1] An address delivered at the formal opening of the Laboratories of the Rockefeller Institute for Medical Research, New York, May 11, 1906.

afforded by this laboratory during Koch's connection with it, from 1880 to 1885. Thence issued in rapid succession the description of those technical procedures which constitute the foundation of practical bacteriology and have been the chief instruments of all subsequent discoveries in this field, the determination of correct principles and methods of disinfection, and the announcement of such epochal discoveries as the causative germs of tuberculosis,—doubtless the greatest discovery in this domain,—of typhoid fever, diphtheria, cholera, with careful study of their properties.

The leading representative, however, of the independent laboratory devoted to medical science is the Pasteur Institute in Paris, founded in 1886 and opened in 1888. The circumstances which led to the foundation of this institute made probably a stronger appeal to popular sympathy and support than any others which have ever occurred in the history of medicine.

There stood in the first place, the personality and the work of that great genius, Louis Pasteur, of noble and lovable character, one of the greatest benefactors of his kind the world has known, who for forty years had been engaged, often under adverse conditions, in investigations which combined the highest scientific interest with important industrial and humanitarian applications. Pasteur's revelation of the world of microscopic organisms in our environment—the air, the water, and the soil—and his demonstration of their relation to the processes of fermentation and putrefaction, had led Lister in the late sixties, even before anything was definitely known of the causative agency of bacteria in human diseases, to make the first and most important application of bacteriology to the prevention of disease by the introduction of the principles of antiseptic surgery, whereby untold thousands of human lives have been saved.

In 1880, came the most momentous of Pasteur's contributions to medical science and art in the introduction of the method of active immunization by the use of the living parasites of the disease attenuated in virulence, a method which until this date had remained without further application since its employment by Edward Jenner in 1796 in vaccinating against

smallpox. Pasteur's researches in this field of immunity, marvelous in their originality, ingenuity, and fertility of resource, culminated in 1885 in the announcement of his successful method of protective inoculation against that dread disease, rabies, and most of those here present will recall the enthusiasm with which this great triumph of experimental medicine was hailed thruout the civilized world.

It was under the immediate impression and the incentive of this discovery, and as a mark of gratitude to Pasteur, that over two and one-half million francs were raised within a short time by international subscription for the construction and endowment of an institute to bear his name, where the Pasteur treatment was to be carried out and ample facilities afforded for investigations of micro-organisms and the problems of infectious diseases. This model institute, much enlarged since its foundation and after the death of Pasteur under the directorship, first of Duclaux, and now of Roux, and in one of its most important divisions, of Metchnikoff, has been a fruitful center of productive research and thru its contributions to knowledge affords a signal illustration of the benefits to science and to humanity of the endowment of laboratories for the advancement of medical science.

It was under much the same influences that the important Imperial Institute for Experimental Medicine in St. Petersburg, with even wider scope than the Pasteur Institute, was founded and munificently endowed by Prince Alexander of Oldenburg in 1890.

In the following year, the Prussian government established in Berlin, under the directorship of Professor Koch, the admirably organized and equipped Institute for Infectious Diseases, to which is attached, as to the Pasteur Institute, a hospital for infectious diseases. This and the excellent Institute for Experimental Therapeutics, in Frankfort, under Professor Ehrlich's direction, founded also by the Prussian government in 1896, are unsurpassed in their scientific activities and in the number and value of their contributions to our knowledge of infection and immunity.

In 1891, was founded in London the British, later the Jen-

ner, and now the Lister Institute of Preventive Medicine, designed to be a national institute similar in character and purpose to the Institut Pasteur in Paris. The funds were contributed by the public, and subsequently increased by Lord Iveagh's generous gift of two hundred and fifty thousand pounds.

Within less than a year after the foundation of the Rockefeller Institute for Medical Research, the Memorial Institute for Infectious Diseases was founded in Chicago by Mr. and Mrs. Harold F. McCormick, and placed under the capable direction of Professor Hektoen.

The Institute for the Study, Treatment, and Prevention of Tuberculosis, which bears the name of its beneficent founder, Henry Phipps, was incorporated in Philadelphia, in 1903, and, while devoted to a single disease, it must be ranked among those of wide scope, when we consider the magnitude and surpassing importance of the problems pertaining to this disease.

It may also be noted that the Carnegie Institution in Washington, with its unequaled endowment of ten million dollars, includes within its scope the support of biological and chemical investigations of great importance to medical science, so that our country now stands in line with Germany, France, and Great Britain in the opportunities afforded for research in medical and other sciences.

These various institutions have been mentioned as typifying the general aims and character of the Rockefeller Institute for Medical Research, rather than to afford any complete picture of the material aid now available for the advancement of scientific medicine. If the latter were the purpose, it would be necessary to travel far afield so as to include independent medical laboratories of more restricted scope, such as those for the study of cancer, the laboratories connected with departments of health, so well exemplified in our own country by those of the State Board of Health of Massachusetts, and of the Department of Health of the City of New York, hospitals and the laboratories connected with them, the medical laboratories of universities and medical schools, such as the Thomp-

son Yates and Johnston laboratories in Liverpool, and the splendid new laboratories of the Harvard Medical School, laboratories established in recent years for the study of tropical diseases, such as our government laboratories in Manila, and funds available for special grants to investigators.

Impressive and encouraging as is this remarkable growth within recent years, of laboratories devoted to the medical sciences, no one who has any knowledge of the vast field to be covered, of the difficulty and complexity of the problems, of the expenditure of money required, and of the returns in increased knowledge and benefits to mankind which have been attained and which may be expected in increasing measure, can for a moment suppose that the existing opportunities, considerable as they are, are adequate to meet the present and the future needs of scientific medicine.

As I have already stated, the wider recognition of medical science as a rewarding object of endowment, is a result of discoveries made during the last quarter of a century, and it is of interest to inquire why this increased knowledge should have borne such abundant fruit. The result is not due to any change in the ultimate aims of medicine, which have always been what they are today and will remain,—the prevention and the cure of disease,—nor to the application to the solution of medical problems of any higher intellectual ability and skill than were possessed by physicians of past generations, nor to the growth of the scientific spirit, nor to the mere fact of a great scientific advance in medicine, for the most important contribution ever made to our understanding of the processes of disease was the discovery by Virchow in the middle of the last century of the principles and facts of cellular pathology, the foundation of modern pathology.

The awakening of this wider public interest in scientific medicine is attributable mainly to the opening of new paths of investigation which have led to a deeper and more helpful insight into the nature and the modes of prevention of a group of diseases—the infectious diseases—which stand in a more definite and intimate relation to the social, moral, and physical well-being of mankind than any other class of diseases. The

problems of infection which have been solved, and kindred ones which give promise of solution, are among the most important relating to human society. The dangers arising from the spread of contagious and other infectious diseases threaten, not the individual only, but industrial life and the whole fabric of modern society. Not medicine only, but all the forces of society are needed to combat these dangers, and the agencies which furnish the knowledge and the weapons for this warfare are among the most powerful for the improvement of human society.

Great as was the material, intellectual, and social progress of the world during the past century, there is no advance which compares in its influence upon the happiness of mankind with the increased power to lessen physical suffering from disease and accident, and to control the spread of pestilential diseases. Were we today as helpless as the physicians of past centuries in the face of plague, smallpox, typhus fever, cholera, yellow fever, and other epidemic diseases, even if the existence of our modern crowded cities were possible, which may be doubted, the people would sit continually in the shadow of death. Great industrial activities of modern times, efforts to colonize and to reclaim for civilization vast tropical regions, the immense undertaking to construct the Panama Canal, are all in the first instance dependent upon the successful application to sanitary problems of knowledge, much of it gained in recent years, concerning the causation and propagation of epidemic and endemic diseases.

And yet probably a fair measure of the general realization of these facts is the provision by Congress that of the seven members of the Isthmian Canal Commission four shall be engineers without a word concerning a sanitarian on the Commission. There could hardly be a more impressive opportunity to demonstrate to the world the practical value of our new knowledge concerning the mode of conveyance of malaria and yellow fever, the two great scourges of Panama, than that afforded by the digging of the Isthmian Canal. The sanitary problem is not surpassed in difficulty by the engineering problem, but we may feel reasonable assurance that, with the sani-

tary control in hands as trained and capable as those of Colonel Gorgas, the ghastly experiences of the old French Panama Canal Company and in the construction of the railway will not be repeated.

To comprehend fully the degree and the character of the progress of modern medicine, requires a kind of knowledge and a breadth of vision not possessed by the average man. He is concerned mainly with the prompt relief of his own ailments or those of his family. Of the triumphs of preventive medicine he knows little or nothing. With such dull matters as the decline in the death rate by one-half, and the increase in the expectation of life by ten or twelve years during the last century, he does not concern himself. He takes no account of the many perils which have been removed from his pathway since his birth, and indeed at the time of his birth, nor does he know that had he lived a little over a century ago and survived these perils, he would probably be marked with smallpox.

While it is true that in the relief of physical suffering and in the treatment of disease and accident the progress has been great and the physician and the surgeon can do more, far more today than was possible to his predecessors, and while improvement in this direction must always be a chief aim of medicine, still it is in the prevention of disease that the most brilliant advances have been made. The one line of progress, that with which the daily work of the physician is concerned, affects the individual, the unit; the other, like all the greater movements in evolution, affects the race. It has been argued, with a certain measure of plausibility, that the interference with the law of the survival of the fittest, assumed to be a result of the success of preventive medicine, will bring about deterioration of the race. I believe the argument to be fallacious, and that we already have sufficient experience to show that there need be no serious apprehension of such a result.

Before some accurate knowledge of the causation of infectious diseases was secured, preventive medicine was a blundering science, not, however, without its one great victory of vaccination against smallpox, whereby one of the greatest scourges of mankind can be controlled and could be eradicated,

if the measure were universally and efficiently applied. The establishment upon a firm foundation of the germ doctrine of infectious diseases, the discovery of the parasitic organisms of many of these diseases, the determination by experiment of the mode of spread of certain others, and the experimental studies of infection and immunity, have transformed the face of modern medicine. The recognition, the forecasting, the comprehension of the symptoms and lesions, the treatment of a large number of infectious diseases, have all been illuminated and furthered, but the boon of supreme import to the human race has been the lesson that these diseases are preventable.

Typhus fever, once widespread, and of all diseases the most dependent upon filth and overcrowding, has fled to obscure, unsanitary corners of the world before the face of modern sanitation.

In consequence of the knowledge gained by Robert Koch and his co-workers, Asiatic cholera, to the modern world the great representative of a devastating epidemic, will never again pursue its periodical, pandemic journeys around the world, even should it make a start.

Of bubonic plague, the most dreaded of all pestilences, which disappeared mysteriously from the civilized world over two centuries ago, we know the germ and the manner of propagation, and, altho it has ravaged India for the last ten years with appalling severity, it can be and has been arrested in its spread when suitable measures of prevention are promptly applied.

Typhoid fever, the most important index of the general sanitary conditions of towns and cities, has been made practically to disappear from a number of cities where it formerly prevailed. That this disease is still so prevalent in many rural and urban districts of this country, is due to a disgraceful neglect of well-known measures of sanitation.

To Major Walter Reed and his colleagues of the Army Commission, this country and our neighbors to the South owe an inestimable debt of gratitude for the discovery of the mode of conveyance of yellow fever by a species of mosquito. On the basis of this knowledge, the disease, which had been long such a menace to lives and commercial interests in our South-

ern States, has been eradicated from Cuba, and can be controlled elsewhere.

Another army surgeon, Major Ross, acting upon the suggestion of Sir Patrick Manson, had previously demonstrated a similar mode of incubation and transportation of the parasite of malaria, discovered by Laveran, and it is now possible to attack intelligently and in many localities, as has already been proven, with good promise of success, the serious problem of checking or even eradicating a disease which renders many parts of the world almost uninhabitable by the Caucasian race and, even where less severe, hinders, as does no other disease, intellectual and industrial activities of the inhabitants. It is gratifying that one of our countrymen and a member of the Board of Directors of this Institute, Dr. Theobald Smith, by his investigations of Texas cattle fever, led the way in the discovery of the propagation of this class of diseases thru an insect host.

The deepest impress which has been made upon the average death rate of cities has been in the reduction of infant mortality thru a better understanding of its causes. The Rockefeller Institute, by the investigations which it has supported of the question of clean milk and of the causes of the summer diarrheas of infants, has already made important contributions to this subject, which have borne good fruit in this city and elsewhere.

No outcome of the modern science of bacteriology has made a more profound impression upon the medical profession and the public, or comes into closer relation to medical practice, than Behring's discovery of the treatment of diphtheria by antitoxic serum, whereby in the last twelve years the mortality from this disease has been reduced to nearly one-fifth of the former rate.

The most stupendous task to which the medical profession has ever put its hands is the crusade against tuberculosis, whose preëminence as the leading cause of death in all communities is already threatened. Sufficient knowledge of the causation and mode of spread of this disease has been gained within the last quarter of a century to bring within the possible

bounds of realization the hopes of even the most enthusiastic, but it will require a long time, much patience, and a combination of all the forces of society, medical, legislative, educational, philanthropic, sociological, to attain this goal.

Time forbids further rehearsal, even in this meager and fragmentary fashion, of the victories of preventive medicine. Enough has been said to make clear that man's power over disease has been greatly increased in these latter days. But great and rapid as the progress has been, it is small in comparison with what remains to be done. The new fields which have been opened, have been explored only in relatively small part. There still remain important infectious diseases whose secrets have not been unlocked. Even with some whose causative agents are known, notably pneumonia and other acute respiratory affections, and epidemic meningitis, very little has yet been achieved by way of prevention. The domain of artificial immunity and of the treatment of infections by specific sera and vaccines, so auspiciously opened by Pasteur and by Behring, is still full of difficult problems, the solution of which may be of immense service in the warfare against disease. Of the cause of cancer and other malignant tumors nothing is known, altho many workers with considerable resources at their disposal are engaged in its study. With the change in the incidence of disease, due at least in large part to the repression of the infections of early life, increased importance attaches to the study of the circulatory, renal, and nervous diseases of later life, of whose underlying causes we are very imperfectly informed. There are and will arise medical problems enough of supreme importance to inspire workers for generations to come and to make demands upon all available resources.

In directing attention, as I have done, to some of the practical results of scientific discovery in medicine, and in indicating certain of the important problems awaiting solution, there is always the danger of giving to those unfamiliar with the methods and history of such discovery a false impression of the way in which progress in scientific knowledge has been secured and is to be expected. The final victory is rarely the

result of an immediate and direct onslaught upon the position ultimately secured. The advance has been by many and devious and gradual steps, leading often, it might appear, in quite different directions, and mounted more frequently than not to secure a wider prospect, but without any thought of the final goal. The army contains a multitude of recruits drawn from the most various fields, the biologist, the chemist, the physiologist contributing their share to medical triumphs just as truly as the pathologist, the bacteriologist, the hygienist, the clinician. The inspiration has been the search for truth and joy in the search far more than any utilitarian motive. In the fullness of time comes the great achievement; the leader is hailed, but he stands upon the shoulders of a multitude of predecessors whose contributions to the result are often lost from view.

In full recognition of the dependence of success in the warfare with disease upon increase of knowledge, the Rockefeller Institute for Medical Research was founded by the enlightened munificence of Mr. John D. Rockefeller, to whom we make grateful acknowledgment. Likewise to the broad sympathies and active interest of his son, Mr. John D. Rockefeller, Jr., the origin and development of this Institute are largely indebted.

What has already been accomplished, as well as the general scope and aims of the Institute, have just been concisely indicated to you by Dr. Holt. My purpose has been to show, altho of necessity most inadequately, that these aims relate to matters of the highest significance to human society, that the present state of medical science and art requires large resources for its advancement, and that the returns in benefits to mankind have been and will continue to be great out of all proportion to the money expended.

May the hopes of the founder and of those who have planned this Institute be abundantly fulfilled! May it contribute largely to the advancement of knowledge, and may the streams of knowledge which flow from it be "for the healing of the nations"!

WILLIAM H. WELCH

JOHNS HOPKINS UNIVERSITY

II

BIBLIOGRAPHY OF EDUCATION FOR 1905 (II)

Compiled by James Ingersoll Wyer, Jr., Reference Librarian, New York State Library, and Mabel E. Leonard, New York State Library School

373 SECONDARY EDUCATION OTHER THAN PUBLIC; PRIVATE SCHOOLS AND ACADEMIES

Great Britain

286 **Barnicoat, C. A.** Imperial co-operation in education. (Monthly rev. Aug. 20, no. 2. p. 142-51.)

Presents the work and aims of the "League of the Empire," thru which colonial and English schools correspond, that the love of home and brotherly feeling may be increased thruout the British empire.

286a **Benson, A. C.** Public school education. (Monthly rev. Dec. 21, no. 3. p. 31-43.)

Raises the question whether school teaching in England need necessarily be so unproductive and dispiriting a business as it generally is, and then shows where the faults lie and suggests remedies.

287 **Boy at the public schools.** (Blackwood's, Jan. 177:38-51.)

Description of a boy's life and feelings at an English public school, written as if to dispell a mother's misgivings about sending him. A continuation of "On the choice of a public school" in Blackwood's, Dec., 1904. 176: 756-67.

288 **Confessions of a schoolmaster.** (Educ. rev. Dec. 30:433-41.) From the Upton letters, by T. B., p. 159-167.

A spicy article about English school life and methods, especially in reference to the classics and the definite type of boy developed.

289 **Hereford, Lord bishop of.** Educational problems. (Pop. sci. mo. Jan. 66:273-78.)

An English view concerning the best place for boys from 14 to 19 years of age, and the influence of universities upon school education thru their requirements for admission and their bestowal of endowments.

290 **Public schools year book;** with a general list of preparatory schools. Sixteenth year, 1905. 615 p. D. Sonnenschein, *2s. 6d.*

The first 336 pages are devoted to information about 115 schools. Then follow chapters on how to prepare for the various professions; a brief but useful bibliography of many of the schools; a list of the year's educational books; a brief list of public schools for girls and a complete index.

291 **Paton, J. L.** English public schools. 44 p. D. G. Allen, *6p.* net.

292 **Thompson, N. A.** The education at our public schools. (Westminster rev. June. 163:597-607.)

An outline of desirable courses for study, a comparison with what is really taught, and the place of religion in the schools.

293 *Dulwich.* **Gilkes, A. H.** A day at Dulwich. 124 p. S. Longmans, 50c.

"The Master of Dulwich College allows us a most interesting glimpse into the inner working of the great school over which he presides. He takes us into the classrooms, and he takes us into the playing fields. We may venture to congratulate him on the condition of things which prevails in both regions." Spectator.

"A Socratean little book, being a story of school life which is designed to show that a public school is the best of places if its secret is understood. We do not know a better guide in the way to the secret than the headmaster of Dulwich." Saturday review.

294 *Durham.* **The pedigree of Durham school.** (Jour. of educ. Oct. 37: 707-9.)

A brief historical description.

295 *Westminster.* **Leach, A. F.** The origin of Westminster school. (Jour. of educ. Jan. 36: 79-81.)

A history of this famous school by a recognized authority on the subject.

United States

296 **Horwill, H. W.** Private secondary schools in America. (Jour. of educ. Sept. 37: 637-38.)

A sketch, giving their condition and the reasons for their being.

375 CURRICULUM: METHODS IN SPECIAL BRANCHES

All discussions of special subjects are here, whether they concern university, college, special school, secondary school or elementary school, except as they concern college entrance examinations. For those, see 378.01.

297 **Brown, J. S.** Present development of secondary schools according to the proposed plan. (School rev. Jan. 13: 15-18.)

Read at the 18th Educational Conference, held Nov., 1904, at the University of Chicago.

A statement of results of lengthening the high school course and shortening the college; *i. e.*, fitting one into the other in a closer relation.

298 **Courses of study in German schools.** (In U. S.—Education, Comm'r of. Report for 1903. 2: 1217-42.)

Outlines and explains courses given in the People's schools and Normal schools; also gives typical courses of study. Definite and statistical in treatment.

299 **Draper, A. S.** The public school programmes. (Outlook, July. 80: 779-82.)

Shows that America needs, and to a large extent, has, flexible programs suited to the favored and less favored classes of children.

300 **Hartwell, C. S.** Economy in education. (Educ. rev. Sept. 30: 159-77.)

Aims "to indicate certain lines in which we may gain either time or money, and thus relieve the strain by a real economy in education." Suggests plans, backed by statistics, for a shorter course and one better co-ordinated.

301 **Graves, F. P.** Enrichment of the public school curriculum. (Educ. Mar. 25: 387-95.)

An outline of conditions which lead to the idea of enrichment, and a view of present efforts, their good and bad results.

302 **Karr, Grant.** The main subject in the course of study. (Jour. of ped. June. 17: 288-302.)

From the idea that unity is the aim in choosing studies, the author seeks to discover which subject should be the main one about which education should be built.

303 **Lawton, C. E.** Relations between the grammar and high schools as to courses of study and methods of teaching. (Educ. Oct. 26: 103-9.)

304 **Lincoln, L. I.** A plea for the modern course of study. (Educ. Sept. 26: 26-35.)

305 **Lodge, Oliver.** School teaching and school reform: a course of four lectures on school curricula and methods delivered to secondary teachers and teachers in training at Birmingham during February, 1905. 171 p. O. Williams and Norgate, 3*s*.

An interesting and instructive book in which old ideals and means in education are questioned and the writer's idea of what good education should be, fully stated. Brilliant, but shows, to some degree, a lack of completeness. It is free from dogmatism, and is thruout fresh, stimulating and eminently sane.

306 **Mott, T. A.** A state curriculum,—Indiana. (Educ. Mar. 25: 396-400.)

Recommendations on the various subjects of the course of study used in the state made by the committee of the Indiana superintendents' association.

307 **N. Y. (state)—Associated academic principals.** Proceedings of the twentieth annual conference. . . . 1904. 121 p. O. Alb. Educ. dep't, 25c. (N. Y. (state)—Education dep't. Bulletin 29.)

Deals largely with the teaching of various subjects and the better adjustment of the studies in the grammar and high schools' curriculum.

308 **N. Y. (state)—Education department.** Secondary education syllabus for secondary schools, 1905. 321 p. O. Alb. N. Y. state educ. dep't., 25c. (N. Y. (state)—University. Secondary education dep't. Bulletin 27.)

A syllabus of subjects studied in secondary schools arranged in groups, as Language and literature, Mathematics, Sciences, etc., and giving under each subject, 1st, the educative purpose of the study and general directions for teaching it; 2d, an outline of the work to be covered in the different years. It also suggests books to be used, experiments to be tried and topics to be taken up in class. Tho essentially for New York state teachers, it would be a valuable aid to any one in outlining courses of study.

309 **Payne, B. R.** Public elementary school curricula; a comparative study of representative cities of the United States, England, Germany and France. 200 p. O. Silver, Burdett, $1.

A comparative study of the subjects included in the elementary schools of typical cities of England, France, Germany and the United States, of the time allotment of these subjects and their organization into school programs. The volume contains a mass of information, the result of much labor but not well digested. Nevertheless, such presentation of actual conditions is a great advance towards a truer appreciation of the problems of our public education. Notwithstanding many crudities, the book is a valuable one to those who desire to get at the actual facts concerning what is studied by our school children, and what relative value is assigned to these subjects. Bookman.

A Columbia university doctor's dissertation.

310 **Rowe, E. C.** The development of the curriculum and the preservation of the daily recitation. (School rev. May. 13: 411-22.)
A study of present conditions and their needs.

311 **The simplification of the secondary school curriculum.** (In Association of colleges and preparatory schools of the middle states and Maryland. Proceedings of the eighteenth annual convention held at Princeton University, 1904. p. 75-104.)
Papers by Martin G. Brumbaugh, Louise H. Haeseler and James G. Croswell, with a general discussion also.

312 **Yoxall, J. H., and Gray, Ernest.** The companion to the N. U. T. code, 1905; containing suggestions for the consideration of teachers and others concerned in the work of public elementary schools, 1905. 254 p. O. Educ. Supply Assoc., 1s. net.
Aims by "continuous and systematic revision of this volume, to incorporate in it all that experience shows to be of real moment, as making for the success of a Public elementary school." Official, from the Board of Education of Great Britain. They have endeavored to justify the studies they place in the curriculum, to indicate the principles which underlie the teaching of each, and in certain cases, give schemes to be used as examples of method in the treatment of the subjects. Includes suggestions for the treatment of all kinds of subjects. A useful manual. Includes also much official information.

375.04 *Elective studies*

313 **Foster, W. T.** The elective system in public high schools. (School rev. Feb. 13: 150-58; Mar. 13: 243-62.)
Aims 1st, to bring together the arguments on both sides of the question, and, after reducing them to their lowest terms, see just what the differences of opinion are; 2d, to consider those issues, one by one, in connection with investigations of the working of the elective system in the United States. Statistical tables for various cities are given.

314 **Hadley, A. T.** Mental types and their recognition in our schools. (Harper's mo. June. 111: 123-29.)
The question how best fit education to the individual, with special reference to the elective system.

375.2 *The teaching of theology*

315 **Burton, E. De W.** What should the churches demand of the theological schools? Biblical world, Jan. 25: 20-30.)
Read before the Baptist Congress, Louisville, Ky., Nov. 8, 1904.
Definite statements as to what the highest interests of truth demand, and what a school must aim to do.

316 **Hall, C. C.** The teaching of theology. (Educ. rev. Jan. 29: 85-101.)
Read before the International Congress of Arts and Science, St. Louis, Mo., Sept., 1904.
"A plea for the recognition of theology as a university discipline rather than an ecclesiastical discipline." A plea for freedom of thought and expression.

317 **Harper, W. R.** Shall the theological curriculum be modified, and how? (In his Trend in higher education. University of Chic. press, $1.50. p. 234-67.)
A criticism of the present methods and courses of study, and practical suggestions for change.

318 ——— The theological seminary in its civic relationship. (In his Trend in higher education. University of Chic. press, $1.50. p. 207-33.)

The author answers three questions: To what extent is the church concerned in our civic institutions? The preacher? To what extent is the seminary concerned in training preachers in reference to this matter? The last question is elaborated by also showing what methods and means the seminary should use in its training of preachers.

319 ——— Why are there fewer students for the ministry? (In his Trend in higher education. University of Chic. press, $1.50. p. 195-206.)

After showing by statistics, the percent of decrease for 1894-1904, the author gives what he considers the chief reasons for this decline.

320 **Tomlinson, E. T.** Coddling theological students. (World's work, May. 10:6151-54.)

Reflections upon, and deductions from an investigation of the system of giving aid to theological students.

375.34 *Legal education*

321 **Inquiry into the present condition of legal education.** (Amer. law rev. July-Aug. 39:581-83.)

Summary of replies from over 1000 members of the bar in Illinois to questions asking their views with reference to certain important points connected with the best preparation for the practice of law.

375.4 *Language in the curriculum*

See also 375.82 English and 375.84 modern languages.

322 **Junod, H. A.** Native language and native education. 115 p. (In Journal of the African soc. Oct.)

The author, a clergyman of the Transvaal Swiss mission, gives a very able and sensible paper arguing for a large use of the native language as a necessary means to a knowledge of English. The paper is of direct bearing upon our education problem in the Philippines.

375.5 *Science in the curriculum*

Every science teacher should know *School science and mathematics*, a journal now in its fifth year, which is especially concerned with science teaching in Secondary schools.

See also N. E. A. Proc. p. 781-825 for Proceedings of Dep't of science instruction.

323 **Gibson, W. J.** Science in the school; a course of experimental science and nature study, with teaching hints. 87 p. O. Pillans & Wilson (Edinburgh). 1*s.* 6*p.* net.

A full outline of a course into which suggestions for teaching are woven.

324 **Humberstone, T. L.** The use and misuse of terms in science teaching. (Jour. of educ. Apr. 36:296-98.)

Abridged from paper read at the conference of the Public schools science masters' association, Jan., 1905.

Emphasizes necessity of right use of words for proper comprehension of scientific meanings, illustrating with words and methods misused.

375.507 *Nature study*

For material on school gardens see nos. 377, 379, 381, 386.

325 **British association for the advancement of science.** Studies suitable for elementary schools. Report of the committee. (In B. A. Report. 1904. p. 352-60.)

Deals with Nature study work. Discusses the conditions necessary for its study, discipline, course of study, &c., with statement of four serious defects in its teaching as now conducted.

326 **Guyer, M. F.** The question of method in nature study. (Ped. sem. Mar. 12: 86-92.)

A method of teaching suggested and typical outlines given for the study of a plant and an animal.

327 **Jackson, W. S.** Nature study and religion. (Educ. rev. June. 30: 12-30.)

An attempt to show how the two are woven together, and one helps the other.

328 **Long, C. R.** The aim and method of nature study. O. Macmillan, 1*s*.

329 **McMurry, L. B.** Nature study lessons for primary grades. 191 p. D. Macmillan, 60c.

Consists of two parts; animal life, with 19 types, plant life, with 10 types. The book is of the chatter variety, question and answer: "Now look at this hen and tell me what you *like* about her looks. (Her features are pretty.) What do you admire about her feathers? What else do you think is pretty about the hen? (She wears a pretty red comb on top of her head.) How do you like the looks of the little chicks? (They are cunning.)" p. 83. Such, *ad infinitum*, with no hints for teaching, methods, &c. Would this be language as well as nature study?

330 **Nature study review;** devoted to all phases of nature study in schools. M. A. Bigelow, Teachers college, Columbia Univ., $1 per year.

First issued in Jan., 1905, during which year 6 numbers appeared, forming volume one. The editors are Liberty Hyde Bailey; Clifton F. Hodge; H. W. Fairbanks; J. F. Woodhull; M. A. Bigelow.

331 **Ussher, Mrs. Beverley, and Jebb, Dorothy.** Observation lessons on plant life; a guide to the teacher. Newmann.

Nature study lessons designed to set the class thinking. Shows how nature study is carried on in the English schools. "It has high intrinsic merit, and as an introduction to the more formal study of botany, it should prove most valuable." Jour. of educ.

375.51 *Mathematics*

Every teacher of mathematics should know the journal *School science and mathematics*, now in its fifth year.

332 **Collins, J. V.** Economies in algebra. (School rev. Apr. 13: 324-30.)

Expedients for economizing the labor of pupil and teacher, and getting better results from the study.

333 **Evans, G. W.** The measurement theorems in geometry. (School rev. Apr. 13: 307-14.)

Suggestions how they should be taught.

334 **McMurry, C. A.** Special method in arithmetic. 225 p. D. Macmillan, 70c. (Special methods ser. v. 6.)

Aims "to make plain to teachers in elementary schools the purpose of teaching arithmetic, to outline fully a course of study based upon this

controlling idea, and to discuss and illustrate the method of handling some of the chief topics." Preface.

335 **Metzler, W. H.** The educational value of mathematics. (Jour. of ped. June. 17: 277-87.)

Read at the Easter meeting of the Association of mathematics teachers for the Middle states and Maryland.

A statement of the qualities of mind and heart necessary to every educated person, and an explanation of how the study of mathematics develops all these powers.

336 **Millis, C. T.** Arithmetic and geometry; a scheme for teachers and a plea for educational reform. 32 p. O. Educational supply assoc. 9*d*. net.

A statement of the difficulties in fitting the work of a lower to a higher school, and the scheme, outlined in full, for the correlation of arithmetic with geometry, which the author hopes will obviate these in the subject of mathematics.

337 **Sykes, Mabel.** Radical and conservative elements in the teaching of mathematics. (School rev. Jan. 13: 59-69.)

Read at the 18th Educational Conference, Department of Mathematics, held Nov., 1904, at the University of Chicago.

A presentation of some ideas as to how mathematics should be taught.

338 **Taylor, A. R.** Suggestions for modifications in the order and time of presenting algebra. (School rev. Apr. 13: 331-36.)

375.54 *Physical sciences in the curriculum*

339 **Macnair, D. S.** Chemical laboratories for schools. G. Bell.

"This useful little book, scarcely more than twenty papers, is intended to give hints to teachers as to the method of planning and fitting up a school laboratory and of conducting a school course in chemistry." Jour. of Educ.

A helpful plan for twenty pupils, with excellent advice as to procedure of lessons. Contains a useful list of apparatus, with prices.

340 **Physics and chemistry conference.** (In Michigan schoolmasters' club. Proceedings at the fortieth meeting held in Ann Arbor, 1905. p. 15-65.)

Short papers upon various topics in physics and chemistry.

341 **Sheard, Charles.** Some points in the teaching of physics and chemistry. (Educ. Oct. 26: 97-102.)

342 **Tower, W. B.** What amount of mechanics is it desirable to introduce into a first-year course in Physics, and in what position should it come? (School rev. Jan. 13: 69-72.)

Read at the 18th Educational Conference, Department of Physics, held Nov., 1904, at the University of Chicago.

375.57 *Biological sciences in the curriculum*

343 **Biological conference and science teaching.** (In Michigan schoolmasters' club. Proceedings at the fortieth meeting held in Ann Arbor, 1905. p. 65-83.)

Contains short papers upon this subject.

344 **Hahn, C. W.** The method and scope of a year's course in biology for the first year in high school. (Educ. Nov. 26: 154-60.)

345 **Hargitt, C. W.** The place and function of biology in secondary education. Educ. Apr. 25: 475-87.)

An able presentation of certain needs in our educational system and of how they may be supplied by the study of Biology.
Read before the New York science teachers' association.

346 **Hodge, C. F.** Dynamic biology in the college course. (Ped. sem. June. 12: 158-74.)

A criticism of the Huxley Martin plan of teaching biology and a description of how it is taught at Clark university.

347 **Smallwood, M. W.** Biology as a culture study. (Jour. of ped. Mar. 17: 231-39.)

Defining culture as openness of mind, the author shows how a study of biology increases this attribute.

375.6 *Technical and industrial education; engineering*

See also section 371.42 and no. 108.

348 **Arnett, L. D.** Educational outlook based on ocupations. (Ped. sem. Sept. 12: 334-38.)

A statistical study based upon the last U. S. Census returns and dealing with the industrial aspect as it may be related to future education. A study of occupations, which may help educators to decide on the proper kind of education for the child.

349 **Bashford, J. L.** Technical education in Germany. (Fortn. rev. Oct. 84: 692-707.)

Conditions and requirements in German institutions considered in the light of England's need of some such system.

350 **Casartelli, L. C.** Industrial education in Catholic missions. (In Great Britain—Education, Board of. Special reports on educational subjects. v. 14, p. 251-320.)

A compilation from various workers in the missionary fields presenting the condition of industrial education among the natives as carried on by Catholic missions. Various parts of Africa, India, Ceylon, North Borneo and America are treated. A table presents in tabular form, a view of Catholic missions, giving for each, the Vicariate or Prefecture, missionary society, Headquarters and any remarks necessary to be made.

351 **Creasey, C. H.** Technical education in evening schools. 309 p. D. Sonnenschein, 3*s.* 6*d.* net.

"A book which should serve an excellent purpose by showing the possibilities of evening education, and by indicating the reforms which are desirable. Mr. Creasey writes with first-hand knowledge and wide experience." Schoolmasters' Yearbook.
Outlines courses of study as well as discusses methods. Deals entirely with English conditions.

352 **Denning, A. du P.** An amended scheme for the London Charlottenburg. (Jour. of educ. Sept. 37: 588-90.)

An outline of the scheme for giving technical education, what it can accomplish, and in what way. See also the April no. v. 36, p. 529-30.

353 **Douglas, W. L.** Trade schools and their value. (Independent, Apr. 58: 815-17.)

Shows America's need for them, and the good resulting from skilled labor gained thru training.

354 **Hanus, P. H.** Technical continuation schools of Munich. (School rev. Nov. 13: 678-83.)

A reprint from the Boston Transcript, in October, 1905.

A brief history and description of a unique school system where those who must leave school at thirteen or fourteen years are well trained for the several callings on which they enter.

355 **Howe, H. M.** The organization of higher technical education. (In Association of American universities. Journal of proceedings and addresses of the sixth annual conference, 1905. p. 16-32.)

A discussion of, and an affirmative answer to the questions: "Will technical schools serve the interests of the community better if they are parts of great universities, or if they are isolated. Is association or isolation more to the public good?" given by a member of the Columbia university faculty, and by other prominent educators.

356 **Institution of civil engineers.** Report on engineering education by a committee of the Institution.

A contribution of marked value, tho naturally more applicable to professional conditions in Great Britain than in America.

While American engineers will probably feel that in the insistence on actual shop-work as part of professional training the report is ultra-conservative yet it is worth careful study by every one interested in engineering education in the U. S. It is reviewed at some length in Engineering record, 53: 637-38 for May 26, 1906.

357 **Levetus, A. S.** The craft schools of Austria. (Intern. studio, Sept. 26: 201-19.)

A description of various "Fachschulen"; the system, its aims, methods and results. Illustrated by students' work.

358 **Marx, C. D.** General education for engineers. (Pop. sci. mo. Sept. 67: 442-46.)

Discussion as to the necessity for broad, general culture.

359 **Meyer, E. C.** Industrial education and industrial conditions in Germany. 323 p. O. Government printing office. Wash. paper, 25c. (U. S.—Commerce and labor, Dep't. of. Bureau of statistics. Special consular reports. v. 33.)

A series of papers treating exhaustively the German system of industrial education and the various schools in the various trades or professions. For each school, as far as possible, the author gives the origin and nature of the schools of that class or place, the requirements for entrance, the courses, teachers and attendance, time of instruction, income and expenditures, tuition fees, curriculums, &c. Where possible, statistics are given. Part 2 is concerned largely with industrial conditions in different places in different circumstances, tho p. 264-79 discuss general and technical education in Germany. The appendices describe schools in France, Zittau, Japan and London. Pages 145-47 give quite a full bibliography. The author is United States Deputy Consul, Chemnitz, Germany.

360 **Monaghan, J. C.** Industrial education in Germany. (Catholic world, Jan. 80: 442-52; Mar. 80: 799-806; July, 81: 476-82.)

American education and the Mosely commission. 80: 442-52. A criticism, and a comparison of America with other countries.

Industrial education in Germany. 80: 799-806. A broad description of Germany's system, based on Ernest C. Meyer's book bearing this title. Vol. 81: 476-82 is based on Mr. Mason's report. The keynote of Mr. Monaghan's remarks is America's need for reform.

361 **National Educational association—Committee on industrial education in schools for rural communities.** Report to the National council of education. 97 p. O. Irwin Shepard, Winona, Minn., 10c.

362 **Society for the promotion of engineering education.** Proceedings of the thirteenth annual meeting held in Atlantic City, N. J., June 28 and 29, 1905. 324 p. O. Eng. news pub co., N. Y. city, $2.50.

Indispensable annual volume for all who wish to follow engineering education. The most important papers not strictly technical seem to be the president's address on American mining schools, by Fred W. McNair; Progress and influence of technical education, by Victor C. Alderson and a careful report by the committee on Requirements for graduation.

363 **Technical education for women and girls at home and abroad.** 64 p O. Woman's industrial council, 3*d*.

364 **Vanderlip, F. A.** The economic importance of trade schools. (In N. E. A. Proc. p. 141-45.)

With the German schools as a text, the author shows the good results derived from, and the need for, trade schools.

365 **Williams, A. S.** A technical school in Naples. (School rev. May, 13: 398-410.)

A description of the aims and work of the "Scuola Femminile Professionale e di Arti Regina Margherita," a technical school for girls.

375.61 *Medical education*

366 **Allbutt, T. C.** Medical education in London. (Lancet, Oct. 2. p. 1081-86.) Published also in British med. jour. Oct., 1905. p. 913-18.

Discusses education and instruction, the functions of a university, the arrangement of a medical curriculum, the examination question: the one portal system, the outlook of modern medicine, and moral and mental union. Not confined to London.

367 **Blake, C. J.** Collaboration in medical education. (Maryland med. jour. Sept. 48: 349-59.)

Address delivered to the medical and chirurgical faculty of Maryland at its annual meeting, Baltimore, Apr. 26, 1905.

An historical view of medical education, and an exposition of its present status in its need for, and development of, collaboration.

368 **Dodson, J. M.** The research idea and methods in medical education and practice. 19 p. O. Press of the Amer. medical association, Chic. n. p.

Reprints from the Journal of the American Medical Association, July 8, 1905.

An unflattering sketch of the medical conditions in America, and suggestions for bettering them, chief of which is the requiring of research work and more severe entrance examinations.

369 **Egbert, Seneca.** The teaching of hygiene in colleges and normal schools. (American public health association. Public health. v. 30, p. 143-52.)

A statistical view of the extent to which it is taught in various colleges, and emphasis upon the greater need of training in this subject.

370 **International dental congress.** Proceedings of fourth congress, St. Louis, Mo., Aug. 29-Sept. 3, 1904. (Dental cosmos, Oct. 47: 1219-44.)

Historical annotations, and the present condition of dental education in the capital of the republic of Mexico, by José J. Rojo. Includes historic and prehistoric times.

A review of interstate and international dental legislation, showing requirements for practice.

371 **Medical schools of the United States.** (Jour. Amer. med ass'n. Aug. 45: 551-71.)

Arranged by states. Gives a brief description of every college legally chartered to confer the degree of doctor of medicine and whose diploma is recognized by at least one state licensing board. Includes sectarian as well as regular colleges, and also tables of statistics.

372 **Morse, J. L.** The teaching of pediatrics. (Jour. Amer. med. ass'n. Aug. 45: 507-10.)

Delivered at the 56th annual session of the American medical association, Portland, Ore., July 11-14, 1905.

An outline of the medical course given at Harvard and of the teaching of pediatrics there.

373 **Smith, Theobald.** Medical research: its place in the university medical school. (Pop. sci. mo. Mar. 66: 515-30.)

What has been done for research work in medical colleges and suggestions for meeting present needs and future lines of development.

374 **Waldo, Frank.** The Harvard medical school. (Pop. sci. mo. May. 67: 35-41.)

A brief account of the work of the school and its equipment.

375.63 *Agricultural education*

Publication 807 from the U. S. office of experiment stations gives an 8 p. list of titles on agricultural education.

375 **Association of American agricultural colleges and experiment stations.** Proceedings of the eighteenth annual convention held at Des Moines, Iowa, Nov. 1-3, 1904. 138 p. O. U. S. gov't. (U. S.—Experiment stations, office of, Bulletin 153.)

W. O. Thompson. Some problems in the colleges of agriculture and mechanic arts. p. 33-42. Report of committee on methods of teaching agriculture. p. 43-56. Deals with the teaching of agriculture in rural common schools. A topical and slightly statistical treatment, and gives a syllabus of an elementary course in agriculture.

K. L. Butterfield. The social phase of agricultural education. p. 56-61.

W. O. Thompson. How far should or may land-grant colleges engage in teaching elementary subjects not generally recognized as belonging to the college curriculum? With paper and discussion, p. 79-91.

M. H. Buckham. Military instruction. With discussion, p. 91-101. On the intent and purpose of the Morrill Act with regard to military instruction.

G. A. Harter. What degrees should be given for the completion of undergraduate courses in land-grant colleges? With discussion, p. 101-6.

J. L. Snyder. What can and should be done to increase the interest in and appreciation for the agricultural side of technical education? With discussion, p. 106-16.

376 **Bathurst, Charles, and Medd, J. C.** ed. Report of the Conference on agricultural education held at Gloucester, on Oct. 15, 1904. 220 p. O. Gloucester (Eng.) Educ. com. 3*d*.

Various aspects of agricultural education presented in addresses by men representing both agricultural and educational interests. Speakers and topics are English and the substance of the addresses has been severely criticised as academic, impractical and too little pertinent to actual conditions. See a contemptuous arraignment of this meeting by E. Verney in Independent review, May, 1905, 6: 38-46.

377 **Bennett, H. C.** The school garden; a new method of nature study. (Booklover's mag. Apr. 5: 469-78.)

A brief history of the movement, a description of what was done in Phila-

delphia and a statement of the advantages and good resulting from work along this line.

378 **Butterfield, K. L.** The social phase of agricultural education. (Pop. sci. mo. Aug. 67: 353-62.)

Read Nov. 2, at the convention of the Association of American agricultural colleges and experiment stations, Des Moines, Iowa.

From the point of view of the agricultural college. A presentation of the "rural problems," and of the ways in which the agricultural college may fulfill its function by helping to solve them.

379 **Davis, B. M.** School gardens for California schools; a manual for teachers. 79 p. O. State normal school, Chico, Cal., 50c. (Publications of the State normal school, Chico, Cal., Bulletin no. 1.)

"An attempt to put the California teachers who wish to undertake school gardening in possession of what the writer has found useful in his own experience. It is the product of several years' study and experiment in connection with his work at the Los Angeles and Chico State Normal Schools. The subject covers such a wide field that it has been necessary to treat each phase in the briefest manner consistent with clearness." Preface.

Suggestive and practical, and, except in the matter of specific detail, useful to anyone interested in the subject. Illustrated, and also contains charts giving a plant calendar and a correlation chart for garden work. The references add greatly to its general usefulness.

CONTENTS: Introduction (history of movement.)—The plant and its relations.—Plant propagation.—Instruction.—Adaptation to school conditions. School gardens of Los Angeles and Chico State Normal Schools.—Useful reference books, bulletins, &c.—References on common insects of California.—Bibliography.

380 **Davis, K. C.** County schools of agriculture in Wisconsin. (In U. S.—Agriculture, Dep't. of. Annual report of the Office of experiment stations for year ending June 30, 1904. p. 677-86.)

A study of these schools after two years of successful operation, with reference to their equipment, grounds, buildings, character, methods and facilities for instruction, attitude of the students and correlative work.

381 **Galloway, B. T.** School gardens; a report upon some co-operative work with the normal schools of Washington, with notes on school garden methods followed in other American cities. 47 p. O. Government printing office, Wash. (U. S.—Agriculture, Dep't. of. Office of Experiment stations. Bulletin no. 160.)

A statement of what has been done and the means employed. Each city studied is treated separately.

382 **General laws relating to agricultural and mechanical land grant colleges.** (In U. S.—Education, Comm'r of. Report for 1903. 1: 39-226.)

A continuation and completion of the compilation appearing in the commissioner's Report of 1902. p. 1-90. Contains the laws of 32 states and territories having colleges established under acts of Congress, approved July 2, 1862, and Aug. 30, 1890.

383 **Hamilton, John.** Agricultural instruction for adults in the Brititsh empire. 96 p. O. Wash., government printing office. (U. S.—Experiment stations, Office of. Bulletin 155.)

Results of investigation respecting methods adopted by various governments included in the British empire in the dissemination of agricultural information among their rural populations.

384 **Hays, W. M.** Agricultural education in high schools. (In U. S.—Education, Comm'r of. Report for 1903. 2: 1368-72.)

Read at the 40th annual session of the Minnesota educational association, Dec. 31, 1902-Jan. 2, 1903.

Need for instruction presented and the best means of gaining it.

385 **M'Clure, D. E.** Phases of modern education: II. Education of country children for the farm. (Educ. Oct. 26: 65-70.)

An indefinite discussion, with some statements of what has been done for farming communities.

386 **Miller P. K.** School gardens in their relation to the three R's. (Educ. May. 25: 531-42.)

A report of work done by children of third and fourth grades in their gardens at Riverside Park, Baltimore, Md. The purpose is to show the relation between studies usually accepted as general school work, and garden work; or, to show that garden work, carried on intelligently, necessitates a thoro teaching of the three R's. Introduction.

387 **Reade, Hubert.** An agricultural college in Japan. (Westminster rev. May. 163: 502-8.)

Description of what is done at the Agricultural institute of Sapporo.

388 **Spender, Hugh.** Lady Warwick's farming college for girls. (Century, Aug. 70: 548-53.)

Describes plan and method of teaching girls to earn their living in light agricultural industries.

389 **True, A. C.** Progress in agricultural education, 1904. (In U. S.—Agriculture, Dep't.of. Annual report of the Office of experiment stations, for 1904. p. 575-616.)

A view of work done by the experiment stations; the growth, financial standing, courses of study and buildings for agricultural colleges; and various topics of interest in agricultural education in other grades of schools.

390 ——— The teaching of agriculture in the public schools of the south. (In Conference for education in the south. Proceedings of the eighth annual conference, 1905. p. 57-68.)

The author is Director of the U. S. Office of experimental stations.

A sketch of general agricultural conditions, of the tendencies in education, especially on the agricultural side, statements of the way experience shows that agricultural education should be organized, and general observations urging the introduction into the common schools of agriculture, as a subject to be taught.

375.64 *Domestic science*

391 **Ravenhill, Alice.** The teaching of "Domestic science" in the United States of America. (In Great Britain—Education, Board of. Special reports on educational subjects. v. 15.)

The report was prepared by the author as a result of an investigation made by her at the joint request of the Board of Education, the West Riding county council and the Royal sanitary institute. Except for the index, the paper was ready for publication in June, 1903, but it seemed best to delay its publication for a while.

It is a thoro, scientific, comprehensive and detailed treatment of the subject. About all phases of domestic science taught in America are discussed as to their value, manner of treatment and what is being done in special places. The subject is taken up from the view-point of the age of the students; for instance, domestic science in the kindergarten, in the primary schools, high schools, colleges, technical institutions, &c., thus

presenting a possibility of comparison. The many tables of schedules, of study, statistics and plans of buildings add greatly to the practical value of the work. Appendices give tables stating exactly what equipment is necessary for various kinds of work and giving prices in English currency. They also give outlines of lecture courses in various subjects, for different years, and in different institutions. A bibliography and a full index is also included.

CONTENTS: Part 1, State institutions.—Part 2, Private institutions.—Part 3, Social agencies for the promotion of domestic science teaching. Appendices.

392 **Richards, E. H.** The present status and future development of domestic science courses in the high school. (In National society for the scientific study of education. Fourth year book. pt. 2. p. 39-52.)

A study of the conditions into which one would have to introduce domestic science courses, an outline of such a course and the results one might expect from it.

375.65 *Commercial education*

See also papers printed in N. E. A. Proc. p. 669-705 under the Department of business education.

393 **Brown, J. S.** The place of commercial work in the High school course of study. (In National society for the scientific study of education. Fourth year-book, pt. 2. p. 9-17.)

A brief discussion of the subject from the historical, educational and practical standpoint.

394 **Carpenter, F. O.** Phases of modern education; IV. Industrial and commercial training in public schools. (Educ. Dec. 26: 191-202.)

Tells what industrial and commercial training is and how it can best be given.

395 **Kreemer, S. I.** Writing. (Educ. May. 25: 545-52.)

An investigation, and conclusions drawn therefrom, based upon three sets of questions sent to primary and high school teachers and to business men, to discover which system of writing is the best, the most preferred and the quickest to use.

396 **Scott, W. A.** The education of business men. (World to-day, Aug. 878-82.)

Some features out of which grew the business courses in colleges; also their purposes and requirements.

375.7 *Art education*

See also papers printed in the N. E. A. Proc. p. 591-625 under the Department of art education.

397 **Brad, C.** Drawing in preparatory schools. (Educ. Sept. 26: 47-51.)

Suggestions and an outline of the scheme followed by the Armour Scientific Academy.

398 **Brown, H. H.** Appearance drawing in the high school. (School rev. Sept. 13: 531-38.)

An account of how drawing has been, and now is, taught.

399 **Coburn, F. W.** Composition as the basis of art instruction. (Educ. Oct. 26: 80-86.)

How it affects instruction in elementary and secondary schools.

400 **Froehlich, H. B.** Design and crafts in the high school. (School rev. Sept. 13: 521-30.)
Read before the Eastern Art teachers' association, at Trenton, N. J., May 5, 1905.
A presentation of how art and manual training are taught in high schools.

401 **Haney, J. P.** The arts in theory; a statement of ideals. (Educ. Nov. 26: 161-67.)
Address delivered before the Eastern Art Teachers' Association, Trenton, 1905.
A relation of arts with other studies insisted on, working towards the ideal of a child's training, not a finished artistic product made by him.

402 **Münsterberg, Hugo.** Principles of art education; a philosophical, æsthetical and psychological discussion of art education. 114 p. D. Prang, $1.

403 **Van der Veer, L.** Art student life in Munich. (Intern. studio. Mar. 25: 16-29.)
A description of their life, work, customs and privileges.

375.78 *Musical education*

See also papers printed in the N. E. A. Proc. p. 627-68 under the Department of music education.

404 **Hanchett, H. G.** College and university work in music. (Educ. Feb. 25: 345-53.)
A plea for the teaching of music in colleges and suggestions as to the kind and method of instruction.

405 **Jenkins, C. W.** How children may be trained to express thought in music language. (Overland mo. Aug. 61 (ser. 2, 46) : 176-80.)
Shows how children may be taught to compose music for words.

406 **Jepson, B.** Music in public schools. (Educ. Mar. 25: 401-11.)
The author has been vocal instructor in the public schools of New Haven since Jan., 1865. He describes his methods of teaching music, dividing the subject by school years.

407 **Mighels, P. V.** A music-school settlement. (Harper's mo. Nov. 111: 832-41.)
An account of the "Society of the music school settlement" and its school of music for the East Side poor in New York city.

375.82 *English language and literature in the curriculum*

408 **Bailey, F. C.** Fossilization among teachers of English; a plea against pedagogism. (School rev. Nov. 13: 712-16.)

409 **Boggs, L. P.** How children learn to read: an experimental study. (Ped. sem. Dec. 12: 496-502.)
Methods discussed, and experiments recorded.

410 **Cabell, E. D.** An aspect of the work of the teacher of English. (School rev. Sept. 13: 560-66.)
The gaining of the deepest appreciation of good literature.

411 **Hall, G. S.** What children do read and what they ought to read. (Jour. of ped. Sept. 18: 46-51.)
Suggestions as to subjects.

412 **McConkey, B. M.** Literature in elementary schools. (Jour. of ped. Mar. 17: 225-30.)

A discussion of the kind of literature now read by children in schools.

413 **McMurry, C. A.** Special method in language in the eight grades. 192 p. D. Macmillan, 70c. (Special methods ser. v. 7.)

"Designed for elementary teachers and aims to give a broad and simple treatment of the language problem below the high school." Preface.

Includes theory, explanations and directions, also type lessons. For teachers not pupils.

414 **Miner, L. B.** Voluntary reading in the English high school. (School rev. Feb. 13: 180-88.)

A description of what is being done in the Providence English high school.

415 **Noyes, E. C.** Class criticism as a means of teaching English composition. (School rev. Nov. 13: 696-701.)

Definite directions based on experience.

416 **Ringwalt, R. C.** The teaching of speaking in colleges. (Educ. rev. Mar. 29: 294-302.)

Aims "to sketch briefly the place of speaking in the college curriculum and to suggest why considerably more attention should be paid to it; also to point out two or three facts which have helped to bring out the haphazard situation now existing." A program of the essentials of such a course is appended.

417 **Shackford, M. H.** On teaching elementary English. (Educ. rev. Oct. 30: 303-9.)

Helpful suggestions.

418 **Symmes, Frances.** The English teacher and the spelling question. (School rev. Jan. 13: 42-51.)

Read at the 18th Educational Conference, Department of English, held Nov., 1904, at the University of Chicago.

A study of present methods and results in teaching spelling, what the present poor spelling means and how the English teacher should handle the problem.

419 **Thurber, Samuel.** Voluntary reading in the classical high school; from the pupil's point of view. (School rev. Feb. 13: 168-79.)

Read at the meeting of the Association of New England Teachers of English, Nov., 1904.

An exposition of the conditions which make a relation between the pupil's voluntary reading and that required in English study impossible, and a description of the writer's own method of teaching English which was found successful.

420 **Trent, W. P.** Teaching literature. (In his Greatness in literature, and other papers. Crowell, $1.20 net. p. 147-84.)

Suggestive as to methods. The writer believes less of the critical tone should be used, and more of the cultural pleasure-giving side of the study emphasized.

421 **Venable, Emerson.** Oral reading as an aid in the interpretation of literature in the high school. (School rev. Apr. 13: 337-41.)

422 **Wilson, Richard.** Lingua Materna: chapters on the school teaching of English. 208 p. O. E. Arnold, *3s. 6p.*

375.84 *Modern languages in the curriculum*

423 **Chamberlin, W. A.** The comparative study of words in foreign languages. (School rev. Apr. 13: 315-23.)

Advocates a study of language by a comparative study of the roots of words.

424 **Crane, T. F.** The modern languages in secondary schools and colleges. (In Association of colleges and preparatory schools of the middle states and Maryland. Proceedings of the eighteenth annual convention held at Princeton University, 1904. p. 23-30.)

A resumé of the external and internal history of the study of the modern languages, during the past forty years, and a discussion of the point of contact between the schools and the colleges.

425 **Eve, H. W.** The teaching of modern languages. 31 p. O. D. Nutt.

Republished from Murray's National education—a symposium. The pamphlet is most opportune, and is very good reading, being well expressed and enlivened with not a few flashes of wit. Modern languages as educative instruments, are contrasted with the classics, and the German method of teaching, known as the "Neuere Richtung" is discussed, its advantages and disadvantages being shown.

426 **Gohdes, W. H.** Modern language instruction in secondary schools. (In Schoolmasters' association of New York and vicinity. Twelfth annual report, 1904-05. p. 43-65.)

The author, a member of the Horace Mann High school faculty, tells his own experience in learning a language, points out the defects in modern methods of teaching, and suggests what he considers the best way to impart knowledge. The question is also discussed by other educators.

427 **Jenkins, T. A.** A brief for French in the High school. (School rev. Jan. 13: 77-83.)

Read at the annual conference of teachers of romance languages in colleges and schools in relations with the University of Chicago.

Reasons for its study given.

428 **Kern, P. O.** The question of translation in the teaching of modern languages. (School rev. Apr. 13: 293-306.)

A presentation and discussion of the three methods of teaching modern languages, with suggestions for a best way.

429 **Modern language conference.** (In Michigan schoolmasters' club. Proceedings at the fortieth meeting held in Ann Arbor, 1905. p. 101-16.)

Contains papers by A. E. Rothman upon the Essentials of German composition, and by Prof. J. E. Lautner upon The question and answer in modern language instruction.

430 **Perman, A. J.** Studying modern languages "properly." Jour. of educ. Apr. 36: 255-57.)

A picture of the perplexities of a teacher of French among the old and new methods of teaching it.

431 **Sachs, Julius.** The modern languages in secondary schools and colleges. (In Association of colleges and preparatory schools of the middle states and Maryland. Proceedings of the eighteenth annual convention held at Princeton university, 1904. p. 9-23.)

A criticism of present educational methods, an enunciation of the fundamental principles governing the teaching of language and suggestions for future use by teachers.

Published also in Educational review, Feb. 29: 163-78.

432 **Some notes** on the teaching of modern languages in French *Lycées* for girls. (Jour. of educ. Nov. 37: 740-42.)

Methods employed and results obtained in a large school of over five hundred pupils.

433 **Thiergen, Oscar.** The teaching of German in German middle-class schools—gymnasiums, realgymnasiums and oberrealschulen. (School rev. Nov. 13: 684-88.)

A description of the aim of the study, and an outline of course of study.

434 **Vreeland, W. V.** The modern languages in secondary schools and colleges. (In Association of colleges and preparatory schools of the middle states and Maryland. Proceedings of the eighteenth annual convention held at Princeton university, 1904. p. 30-40.)

A discussion of the mental training gained by a study of the languages.

375.88 *Classics in the curriculum*

435 **Ashmore, S. G.** The classics and modern training; a series of addresses suggestive of the value of classical studies to education. 159 p. D. Putnam, $1.25.

CONTENTS: A plea for the classics in our schools, with particular reference to Latin.—Our classical inheritance.—The tragedy and comedy of the Greeks.—Classical archæology.—The Olympic games at Athens in 1896.

The first chapter bears directly upon the educational arguments. These are drawn largely from the psychology of language study, are unhackneyed, interesting and presented with admirable temper and earnestness.

436 **Benson, A. C.** A classical education. (Macmillan, Aug. 92: 303-8.)

The reasons for and against.

437 **Bishop, J. R.** Do Latin and Greek need something done for them in the high schools? (School rev. Nov. 13: 689-95.)

438 **Clapp, E. B.** On reading Greek. (Educ. rev. Oct. 30: 243-49.)

A presentation of the difficulties,—and of the means to surmount them,—in the way of one wishing to continue the reading of Greek.

439 **Classical association of England and Wales.** Proceedings, 1905; with rules and list of members. 13 p. O. J. Murray, *2s. 6p.* net.

This is the second volume of Proceedings. It also includes the papers read at the meetings, and discussions upon them.

440 **Conradi, Edward.** Latin in the high school. (Ped. sem. Mar. 12: 1-26.)

A study of the value of Latin to students and for gaining a knowledge of the English language. Tests of students' knowledge were made and the results are tabulated. Includes also a bibliography.

441 **Darrin, Katharine.** A plea for Cæsar. (Educ. rev. Feb. 29: 185-90.)

Aims to show how the study of Cæsar can be made interesting by treating it as a story, or history, not merely as a text to be translated.

441a **Gardner, Percy.** Classical archæology in schools. 32 p.O. Clarendon press, *1s.*

442 **Harris, J. H.** The unsettling of the doctrine of formal discipline and its bearings upon the future of Latin and Greek. (Educ. Mar. 25: 421-27.)

A presentation and discussion of the bearing of intellectual development upon the educational value of studies in general; of Latin and Greek in particular.

443 **Jones, W. H. S.** The teaching of Latin. S. Blackie, *1s.*

Some valuable hints for teaching Latin are found in this book and teachers would do well to study it. Chapter 1 states the uses of the classics

in schools; 2, 3 and 4 each discuss a year's teaching of Latin, the author claiming that "the average boy, with one hour a day for home work and school work combined, can attain to the requisite standard in Latin at the end of a three year course." The important features of his system are, for the first and second year, viva voce lessons, the use of diagrams, &c., pronunciation, study of long quantities and general adaptation of lessons to the sense experience of the class. The inductive method is to be followed. In the third year, one lesson a week is used for composition, one for an unseen and four for the reader. Tho one may question the possibility of such rapid advance in the average boy of from twelve to fifteen years, yet the system advocated has been tried in a prominent school with results which justify the author's statements.

444 **Knapp, Charles.** Some points in the literary study of Virgil. (School rev. June. 13: 492-508.)

A protest against the tendency to distinguish between the literary and the philological study of the classics, and the raising of the question whether the inclusion, in books or in the recitation, of quotations from modern literatures, &c., makes for a literary interpretation and appreciation of the classics.

445 **Lankester, E. R.** Nature and man. (Pop. sci. mo. Sept. 67: 435-41.)

Concluding part of the Romanes lecture delivered at Oxford, June 14, 1905. Since Oxford molds the thought and future of Englishmen to such an extent, the writer pleads for studies which reveal nature to man rather than for the old time classics.

446 **Mayor, J. E. B.** Preface to first Greek reader; 1 May, 1868. 34 p. O. Macmillan and Bowes, *1s.*

With the theme that Greek and Latin can be taught more easily and with less waste of time than at present, the author shows what points a good text book should have, makes suggestions as to how the subjects should be taught, and quotes largely from prominent authors' and educators à propos of the theme.

447 **Miller, E. L.** The Greek in English. (School rev. May. 13: 390-97.)

Shows that, for the specialist in English literature, Greek is not a luxury but a necessity.

448 **Wenley, R. M.** The nature of culture studies. (School rev. June. 13: 441-57.)

Read before the Michigan schoolmasters' club, March 31, 1905. Limited to Latin and Greek.

375.9 *History in the curriculum*

449 **American historical association.** Report of the conference on the teaching of history in elementary schools held at the twentieth annual meeting in Chicago, Dec. 28-30, 1904. (In its Annual report, 1904, p. 203-10.)

Gives the main points made in an interesting discussion by J. A. James, Henry W. Thurston, G. O. Virtue and Emily J. Rice. As a result of this conference the Association appointed a Committee of 8 to report on a course of history for elementary schools and the proper training of teachers for this work.

450 **American historical association.** Report of the conference on the teaching of church history. (In its Annual report, 1904, p. 213-17.)

451 **Bellows, I. F.** The educational value of the history of France. (School rev. Nov. 13: 702-11.)

A presentation of the good results derived from a proper study of history and especially that of France.

452 **Clark, L. A.** An experiment in history teaching. (Jour. of ped. Sept. 18: 52-63.

A succinct statement of the faults in ordinary methods, of what was needed to correct them, and an account of an interesting experiment which succeeded perfectly.

453 **Dunn, A. W.** Is history in the High school a "snap"? If so, why? (Educ. rev. Apr. 29: 410-18.)

A presentation of the qualities of this subject and a comparison with those of other subjects.

454 **Hall, G. S.** The pedagogy of history. (Ped. sem. Sept. 12: 339-49.)

Address at the Annual meeting of the New England history teachers' association, May, 1905.

A discussion of "why we teach history at all; what should it do for the young; why should it have a large and growing place in our curriculum? What is its value and what can and should it do for the young?"

376 EDUCATION OF WOMEN

See also 375.64.

455 **Carpof, Tirva.** A native girls' school in Tunis. (Jour. of educ. Apr. 36: 298-99.)

A brief description of the school, its origin, methods and results.

456 **Gilman, Arthur.** Rhoda's teacher and her school. (Atlantic, Aug. 96: 160-66.)

A discussion of what qualifications one should expect in a daughter's teachers and in her school.

457 **Gordon, Kate.** Wherein should the education of a woman differ from that of a man. (School rev. Dec. 13: 789-94.)

Considers the questions whether a woman's educational training should be, in any sense, a matrimonial one, and whether, in pursuing the same subject that a man does, she should be taught by a different method.

458 **Mass.—Statistics and labor, Bureau of.** Industrial education of working girls. 38 p. O. Mass. bureau of statistics and labor, Bost., 5c.

An investigation into the value of a public school education to the working girl to find out what kind of education she needs and how far the public school supplies what is necessary. Tables for various industries were compiled giving various items as to age, education, pay, nationality and mode of living of girls in Connecticut, Massachusetts, New Jersey, New York and Pennsylvania. The tables are explained and conclusions drawn from the facts collected. A description of a trade training school for girls located in Boston and started July, 1904, is also included.

459 **Smith, A. L.** Higher education of women and race suicide. (Pop. sci. mo. Mar. 66: 466-73.)

Argues strongly against it as unfitting women for home life.

460 **Women at the German universities.** (Educ. rev. Jan. 29: 102-6.)

A definite summary of the present status of women at the German Universities; contributed by Dr. Otto W. Beyer to the London "School."

461 **Woolman, M. S.** The Manhattan trade school for girls. (Educ. rev. Sept. 30: 178-88.)

A presentation of the needs which created the school, and the work now done in it.

462 **Yudelson, Sophie.** The education and professional activities of women. (Annals of Amer. acad. Jan. 25: 117-23.)

A résumé of the subject, with comparative and statistical treatment. It includes students, the teaching, medical, law and theological professions.

376.7 *Co-education*

463 **Hall, G. S.** Coinstruction in graduate schools. (In Association of American universities. Journal of proceedings and addresses of the sixth annual conference, 1905. p. 42-51.)

A summary of the fields of research where women do, or do not, do good research work, and reasons for, and a characterization of their personality as developed and shown in graduate courses. The statements given are based on personal experience. p. 46-51 are occupied with a discussion of the subject by various educators.

464 **Harper, W. R.** Coeducation. (In his Trend in higher education. University of Chic. press, $1.50. p. 294-311.)

A brief consideration of the historical development of the system, with the attitude of various parts of the country towards it, and the reasons. Also, a frank discussion of the phases of the coeducational problem which must in time be solved.

465 **Parsons, E. S.** The social life of the coeducational college. (School rev. May. 13: 382-89.)

The question of how best to give students the corporate life of an institution not educational, raised, and suggestions made towards solving it.

466 **Small, A. W.** Coinstruction in graduate schools. (In Association of American universities. Journal of proceedings and addresses of the sixth annual conference. 1905. p. 32-42.)

A statement and discussion of results gleaned from official sources as to the experience and conditions of coeducation in the universities belonging to the Association. Results of statistics as to what institutions admit women to graduate work and upon what basis, the percent of attendance. Some testimonials of officials are also included.

467 **Smith, A. T.** Co-education in the schools and colleges of the United States. (In U. S.—Education, Comm'r of. Report for 1903. 1: 1047-78.)

A history and description of the movement to date. A bibliography is appended.

377 RELIGIOUS AND ETHICAL EDUCATION

For religious education in Africa, see no. 87; among the Muslims, see no. 80. See also section 375.2 Theological education.

468 **The Bible in American colleges.** (Biblical world, Sept. 26: 215-23.)

Statistics from 271 American colleges arranged by states, showing: (1) Number of students in college.—(2) Number doing biblical work in regular college classes.—(3) Number in Y. M. C. A., Bible chairs, &c.—(4) An estimate of number in regular attendance on other Bible classes, in adjacent churches, &c. Includes all important colleges.

469 **Brady, J. F.** The teaching of Christian doctrine. (Catholic world, Aug. 81: 671-80.)

Insists upon its necessity in connection with secular education.

470 **Brosnahan, Timothy.** The educational fact. (Amer. Cath. quar. rev. Apr. 30: 209-25. July, 508-33.)

Considers what education is, its purpose, what its results should be, largely

from a religious point of view, emphasizing the need of religious training which the government has discarded for public schools.

471 **Brumbaugh, M. G.** Making of a teacher: a contribution to some phases of the problem of religious education. 357 p. O. Sunday school times co., $1.

Intended primarily for the Sunday school, tho secular teachers will find the underlying principles helpful in guiding them. Aims to inspire and vitalize teaching. Discusses the psychological principles underlying good teaching, the training required of teachers, the educative methods used by Jesus and the scope of religious education. Timely, suggestive and helpful.

472 **Coe, G. A.** The religious spirit in the secondary school. (School rev. Oct. 13: 581-96.)

Read at the Conference at Dartmouth College, May, 1905.

With special reference to the high school. The arguments for a religious spirit in teaching, with no "goody-goody" elements.

473 **Drawbridge, C. L.** Training of the twig: an essay on the religious education of the young. 191 p. O. Longmans, $1.25.

"Object of this book is to deal popularly and simply with the rudiments of the science and art of religious education of children. It is meant for parents and teachers." Preface.

474 **Faunce, W. H. P.** Annual survey of moral and religious progress. (Educ. rev. Apr. 29: 364-86.)

Read at the annual meeting of the Religious education association, Boston, Feb., 1905, and included in their Proceedings of the 3d annual meeting, p. 9-19.

Investigation as to "how far our entire educational apparatus, from kindergarten to university, is adequately performing the function of character-building, and especially whether the agencies which have been established with this avowed purpose are increasingly efficient in their work." Definite in detail and optimistic in tone.

475 **Harper, W. R.** The university and religious education. (In his Trend in higher education. University of Chic. press, $1.50. p. 55-77.)

Discusses the position in the university during the past and the present of religious education, emphasizing the need of instruction in this subject and suggesting the lines it should follow and the good results that would flow from it.

476 **Henderson, C. R.** The part of the home in religious education. (Biblical world, June. 25: 418-26.)

What the home can do, considered historically and ethically.

477 **Hodge, R. M.** Manual methods of Sunday-school teaching; with full directions and photographs of work executed by Sunday-school pupils. 39 p. O. R. M. Hodge, N. Y. 30c.

CONTENTS: Introduction. Manual methods available.—Model work.—Map work.—Blank book work.—Ways and means.—Apx. A. The essentials of a good Sunday school.—Apx. B. A Sunday-school curriculum.

Combines a discussion of principles with suggestions and definite directions for carrying on the work. A list of supplies essential, with the price, is also included. The curriculum is tabulated and graded.

478 **Gasson, Rev. T. I.** The religious education association. (Catholic world, Apr. 81: 1-10.)

Discusses the necessity of religious education being combined with secular, as the subject was treated at the association, and criticises the attitude taken by present educators.

479 **Lawrance, Marion.** Sunday School statistics. (In U. S.—Education, Comm'r of. Report for 1903. 2: 2422-31.)

Full statistics for United States and some for Europe.

480 ——— How to conduct a Sunday school; or, Twenty-eight years a superintendent. 279 p. O. Revell, $1.25.

"For the most part details of the best way to work. Contains helpful suggestions for the different departments of the Sunday school and a list of one hundred books for Sunday school workers."

481 **McDevitt, P. R.** The moral training of the young in the Catholic church. (Intern. jour. of ethics, July. 15: 417-31.)

An address given under the auspices of the Society for Ethical Culture of Philadelphia.

An exposition of what the Catholic Church is now doing for education in the United States, the principles underlying the work, and an outline of the methods and means which flow logically from the immovable conviction of the truth of those principles.

482 **McKinney, A. H.** Pastor and teacher training: the Sunday school board seminary lectures, course no. 4, delivered at the Southern Baptist theological seminary, Louisville, Ky., Dec. 5-9, 1904. 191 p. D. Sunday School board Southern Baptist, 50c.

483 **McMillan, Thomas.** Religious knowledge and American schools. (Catholic world, Apr. 81: 84-93.)

Quotations from prominent educators with running commentary, trying to prove the need for religious instruction in schools. A Roman Catholic point of view.

484 **Mims, Edwin.** What should be done by colleges and universities for the religious training of students? (In Association of colleges and preparatory schools of the southern states. Proceedings of the eleventh annual meeting, 1905. p. 13-20.)

A statement of some phases of college life now emphasized, and a plea, with practical suggestions, for more emphasis to be placed on the religious side.

485 **Mullany, Rev. J. F.** Is Catholic education a menace to American institutions? (No. Amer. rev. Oct. 181: 544-54.)

Argues for the negative side.

486 **Ottley, E. B.** Religious instruction in primary schools. (Monthly rev. Feb. 18: no. 2, 137-45.)

A presentation of the needs for, and difficulty in, giving religious instruction in primary schools. Has English conditions in mind.

487 **Pace, E. A.** Modern psychology and Catholic education. (Catholic world, Sept. 81: 717-29.)

"An inquiry into the educational value of Catholic teaching and practice."

488 **Parkinson, W. D.** The school and the church. (School rev. Nov. 13: 661-77.)

A call to co-operation between school and church, with suggestions as to how it should be secured.

489 **Roads, Charles.** Sunday school organization and methods. 110 p. D. Methodist book concern, 35c.

490 **Religious education association.** Proceedings of the third annual convention, Boston, Feb. 12-16, 1905: The aims of religious education. 525 p. O. Rel. educ. assoc., 153 La Salle st., Chicago, $2.

Contents fully up to high standard of first 2 volumes. Over 100 brief papers are printed from ministers and educators covering not only important general topics but such subjects as the function and methods in religious and moral education of our institutions of elementary, secondary and higher education; churches, Sunday schools and theological schools and of such purely secular social agencies as the press, the home, libraries, art, boys' clubs, &c.

491 **Sunday school progress.** (Biblical world, Aug. 26: 83-88.)

A résumé of the results and statements of the Toronto Convention of the International Sunday school association.

492 **Sheedy, M. M.** The Catholic parochial schools of the United States. (In U. S.—Education, Comm'r of. Report for 1903. 1: 1079-1101.)

An exposition of their development, character, methods and aims.

493 **Sheldon, W. D.** The ethical function of the school. (Educ. Feb. 25: 321-32.)

A presentation and discussion of the problem of ethical training in schools.

494 **See, E. F.** The teaching of Bible classes, principles and methods; with special reference to classes of young men and boys. 180 p. D. The international committee of Young men's Christian associations, 75c.

"References for reading": at the end of each chapter.

Presents the notes of a course of study pursued by classes of young men for several years under the leadership of the author.

495 **Tucker, W. J.** How shall pupils be taught to estimate themselves? (School rev. Oct. 13: 597-605.)

Read at the Conference of Elementary and Secondary Schools at Dartmouth college.

A presentation of some ways in which the school can aid in the transition from the unconsciousness of childhood to the simplicity of powerful manhood.

496 **Votaw, C. W.** The field of religious education in America. (Biblical world, May. 25: 347-60.)

An address before the Religious education association, Boston, Feb. 12-16, 1905.

An elaboration of the title.

497 **Waldegrave, A. J.** comp. Teacher's hand-book of moral lessons. 154 p. D. Dutton, $1. 1904.

Under such general topics as Habits, Manners, Patriotism, Justice, Truthfulness, Zeal, Work, Thrift, definite moral ideas are brought out and each subject elaborated, including also directions for teaching the principle involved. "The book was written to illustrate the dessons outlined in Standard V. in the 'Graduated syllabus of moral instruction for elementary schools' and is based on notes of lessons furnished by various teachers. Tho arranged for one standard, it is hoped the book will be found of general usefulness." Preface.

Suggestive and helpful to those teachers wishing to inculcate moral lessons and ideas in a manner entirely separate from definite religious instruction.

498 **Wells, A. R.** Sunday-school problems: a book of practical plans for Sunday school teachers and officers. 297 p. D. Wilde, $1.

A record of the author's thoughts and observations during seven years. A simple and suggestive manual aiming to show how children may be taught.

378 COLLEGES AND UNIVERSITIES; HIGHER EDUCATION

See the papers printed in the N. E. A. Proc. p. 481-515 under the Department of higher education.

499 **Adams, C. D.** College preparation in character. (School rev. Oct. 13: 606-15.)

An address given at the Conference of Elementary and Secondary schools with Dartmouth college, May 12, 1905.

A presentation of the moral dangers in college life and how the school may fit its pupils to meet them.

500 **Baker, G. P.** The mind of the undergraduate. (Educ. rev. Sept. 30: 189-200.)

Read before the Schoolmasters' Association of New York and vicinity.

A student's dislike for quiet thinking: the reasons and results.

501 **The burden of the college president.** (Nation. Oct. 81: 335.)

Gives his qualifications and duties.

502 **Canfield, J. H.** America and Germany: an academic interchange. (Rev. of rev. Dec. 32: 679-82.)

A lucid description of the origin, aims and present condition of the Theodore Roosevelt Professorship. See also the October no. p. 488-89.

503 **Foreign universities and other foreign institutions of higher education in 1903.** (In U. S.—Education, Comm'r of. Report for 1903. 1: 669-87.)

Grouped according to date of founding, number of students, alphabetically and by countries.

504 **Harper, W. R.** The business side of a university. (In his Trend in higher education. University of Chic. press, $1.50. p. 161-85.)

After briefly contrasting the business conditions of a university, now and one hundred years ago, the author shows the many and various ways in which the institution of to-day touches the world at large, on the business side. He then states the general principles which should govern it in its financial transactions.

505 ——— The trend in higher education. 390 p. D. The University of Chicago press, $1.50.

A moderate and balanced discussion of some of the chief university problems of the day from what may be called a Western point of view. It is a trifle hard, from the very greatness and variedness of it all, to decide just what the writer feels the "trend" to be, tho he, himself, expresses it as "democratization." The varied topics treated, the sympathy and style of treatment and the position in the educational world held by the author, make the work of interest and value.

CONTENTS: 1. The university and democracy.—2. Some present tendencies of popular education.—3. The university and religious education.—4. Waste in higher education.—5. The old and the new in education.—6. Dependence of the West upon the East.—7. Higher education in the West.—8. The contribution of Johns Hopkins.—9. The urban university.—10. The business side of the university.—11. Are school-teachers underpaid?—12. Why are there fewer students for the ministry?—13. The theological seminary in its civic relationship.—14. Shall the theological curriculum be modified, and how?—15. University training for a business career.—16. Shall college athletics be endowed?—17. Latin versus science.—18. Coeducation.—19. Alleged luxury among college students.—20. The scientific study of the student.—21. The college officer and the college student.—22. The length of the college course.—23. The situation of the small college.

Important papers are noted separately under the proper subject headings in other parts of this bibliography.

506 **Jebb, Sir R. C.** University education and national life. (Pop. sci. mo. Nov. 67: 647-59.)

Address by the president to the Educational science section of the British association for the advancement of science, South Africa, 1905.

Shows the ways in which a university may touch and mold national life.

507 **Patten, S. N.** University training for business men. (Educ. rev. Mar. 29: 217-33.)

The article aims to point out some fundamental changes that commercial training is making in college programs and in educational theory, and to discover the type of training which will so supplement business experience that rapid promotion is possible.

508 **Pritchett, H. S.** Shall the university become a business corporation? (Atlantic, Sept. 96: 289-99.)

A comparative description of the organization of state and privately supported universities in America, and the organization of the European universities, raising the question of how best they can be managed. Table of statistics also included.

509 **Sachs, Julius.** The elimination of the first two college years: a protest. (Educ. rev. Dec. 30: 488-99.)

Arguments against it.

510 **Thomas, M. C.** The college. (Educ. rev. Jan. 29: 62-84.)

Read before the International congress of arts and science, St. Louis, Mo., 1904.

A defense of the college from its various opponents and a plea for the maintenance of its ideal and its integrity.

511 **Thorndike, E. L.** The selective influence of the college. (Educ. rev. June. 30: 1-11.)

"Facts concerning the amount of the elimination and its points of incidence in thirty-four colleges, and concerning the variations among fourteen of these institutions with respect to the length of time an entering student is likely to stay in them" are given from statistics which the author compiled. Both men and women's colleges are studied.

512 **Thwing, C. F.** Should college students study? (No. Amer. rev. Feb. 180: 230-34.)

Discusses the fact that Harvard students,—and others,—average twenty-six hours a week of scholastic labor.

China

513 **Fong, W. N.** Some phases of the educational problem in China. (Pop. sci. mo. Aug. 67: 348-52.)

Difficulties in the way of teaching Chinese students "Western learning."

Germany

514 **Bode, Mabel.** German universities: a review of Prof. Paulsen's work on the German university system; with a preface and appendix. 43 p. O. P. S. King, 1*s.* net.

Great Britain

515 **At the university.** (Blackwood's, Mar. 177: 351-66.)

A continuation of "Boy at the public schools." A description to a mother of how "Boy" would find life and conditions at Oxford or Cambridge.

516 *Edinburgh university.* **MacPherson, J. I.** Twenty-one years of corporate life at Edinburgh university: with an introduction by Principal Sir W. Turner. 126 p. O. Darien Press (Edinburgh.)

517 *London.* **Allchin, W. H.** An account of the reconstruction of the University of London. Part 1: From the foundation of the university to the appointment of the First Royal Commission, 1825-88. 333 p. O. Lewis, *2s. 6p.* net. (Reprinted from the Medical magazine.)

518 *Oxford.* **The American Rhodes scholars at Oxford.** (Educ. rev. Feb. 29: 109-22.)

"An admirable account of the experiences of the American Rhodes scholars at Oxford contributed to the New York Tribune of Dec. 17 and 20, by the London correspondent of the paper." Shows also the attitude of the University towards the cosmopolitan idea of the founder.

For further consideration of the Rhodes bequest and university federation, its organization and possibilities, see the Nineteenth century, Dec. 56: 970-84, by J. Churton Collins, also nos. 521 and 522 below.

519 *Oxford.* **Meyrick, Rev. Frederick.** Memoirs of life at Oxford and experiences in Italy, Greece, Turkey, Germany, Spain and elsewhere. 348 p. O. Dutton, $3.50 net.

Throws much side-light on the "Tractarian Movement" at Oxford in 1833-41, and on the "Old Catholic reform movement" on the continent.

"Much entertaining matter connected with university and social life at Oxford is also found here" (Critic), especially the incidental descriptions and stories of people of minor note who made up the Oxford of fifty years ago. The author is noticeably biased at times in his judgments.

520 *Oxford.* **Peel, Robert, and Minchin, H. C.** Oxford. 156 p. O. Methuen, *6s.*

A beautiful pictorial guide and description of Oxford University.

521 *Oxford.* **Schutt, W. E.** Experiences and impressions of a Rhodes scholar. (In Educ. rev. Mar. 29: 234-44.)

A brief history of the experience of the Americans during their first three months' stay at Oxford, with such concrete instances as may be interesting.

522 *Oxford university.* **Williams, C. L.** The American student and the Rhodes scholarships at Oxford university; a manual of information. 45 p. O. The Sprague publishing co., Detroit, Mich., 25c.

The information was gathered mostly during a seven weeks' visit at Oxford, England, in 1903, to find out things helpful to those Americans aspiring to become Rhodes scholars. Among other points discussed are the history of Oxford University, its organization, government, buildings, tutors, athletic sports, moral atmosphere, &c., the manner of living there, the methods of study, the slang, and the variations between the different colleges.

India

523 **Madras, Henry.** Higher education in India. (Nineteenth cent. Jan. 57: 120-28.)

A brief history, showing mainly its defects, difficulties and what has been done.

Ireland

524 **"Catholicus."** The Irish University question; its history and its solution. 60 p. O. Simpkin, *1s.* net.

525 **Clinch, B. J.** University education in Ireland. (Amer. Cath. quar. rev. Jan. 30: 28-43.)

526 **Gwynn, Stephen.** The Irish university question. (Fortn. rev. May. 83: 919-32.)

A political and religious history and discussion of the demands of Catholics for a different organization and curriculum in Irish universities.

527 **Lambert, G. T.** The scandal of university education in Ireland. (Nineteenth cent. June. 57: 912-18.)

Italy

528 *Rome university.* **Edmiston, Homer.** Classical studies in Rome. (Nation, June. 80: 478-79: 499-500.)

A description of the University of Rome and the American school of classical studies, with special emphasis upon the opportunities offered for classical study.

United States

See also nos. 48, 49, 50, 59, 164, 168. Also section 376, Education of women. Full tho belated statistical information about American colleges and universities is given each year in the second volume of the report of the U. S. Commissioner of education.

529 **Associated Harvard clubs.** Report of the committee on the question of establishing at Harvard a three years' course for the degree of A. B. Submitted at the meeting at Louisville, Ky. May 27, 1905. 58 p. O. The Weekly mirror print, Minneapolis. No price.

A brief view of the entire subject, with reasons, for and against. Also, opinions of many leading authorities at Harvard and elsewhere upon the subject. No definite decision arrived at.

530 **Bailey, W. B.** Expenses of college students. (World to-day, Apr. 38: 386-89.)

Statistics based upon the reports of two hundred and fifty Yale men, mostly juniors at the time, aiming to show the difference between the expenditures of the poor and the wealthy student.

531 **Cattell, J. McK.** The university and business methods. (Independent, Dec. 59: 1514-16.)

A frank statement of objections to present commercial and trust features in the management of our universities.

532 **College tuition fees.** (Nation, Feb. 80: 129-30.)

A plain statement of the financial needs of colleges and proposals as to the satisfying of them.

533 **Eliot, C. W.** Resemblances and differences among American universities. (Science, Dec. n. s. 22: 769-84.)

Delivered at Yale University, Nov. 15, 1905.

534 **Finley, J. H.** Is the payment of tuition in the free state university a just charge on the public treasury? (In Association of colleges and preparatory schools of the middle states and Maryland. Proceedings of the eighteenth annual convention held at Princeton university, 1904. p. 48-56.)

An eloquent discussion of this subject by a man who thoroly believes the state should provide higher education for its rich and poor alike.

535 **James, E. J.** The function of the state university. (Science, Nov. n. s. 22: 609-28.)

Inaugural address as president of the University of Illinois, Oct. 18, 1905. Its origin, some of its aims, its necessity in our higher educational system and its relation to normal and other secondary educational schools.

536 **Reichel, H. R.** Some characteristics of American universities. (Nature, Nov. 73: 44-46.)

Speaks mainly of the technical schools, the length of the course and post-graduate work as they seem to an Englishman.

537 **Scott, W. A.** The religious situation in state universities. (Biblical World, July. 26: 20-29.)

Statistics were compiled from universities regarding various phases of religious work in them, and deductions of an optimistic character drawn therefrom.

538 **Stewart, J. L.** Is the payment of tuition in the free state university a just charge on the public treasury? (In Association of colleges and preparatory schools of the middle states and Maryland. Proceedings of the eighteenth annual convention held at Princeton university, 1904. p. 56-60.)

Considering both public and privately endowed colleges, from the financial side, the author holds that a crisis is imminent, and that private aid and tuition are not sufficient to enable universities to do the work that is expected of them.

539 **Thwing, C. F.** American universities. (In U. S.—Education, Comm'r of. Report for 1903. 1: 293-317.)

A survey of their origin, the influences working upon them, their growth and broadening of influence and activities and their relations to various phases of life.

540 **Tombo, Rudolf.** Geographical distribution of the student body at a number of American universities. (Science, Oct. n. s. 22: 424-28.)

Tables and explanations showing the localities from which the students of nine of the leading universities come.

541 ——— University registration statistics. (Science, Dec. n. s. 22: 729-40.)

Comparative statistical study of the number of students registered in leading universities, by departments or colleges.

542 **Whipple, G. M.** The distribution of the daily time of Cornell students. (Pop. sci. mo. Oct. 67: 538-54.)

A statement of the methods of gaining the statistics, and critical comments upon the various phases of the results gained.

543 *Amherst college.* **Humphrey, Heman.** Sketches of the early history of Amherst college, prepared by President Heman Humphrey, D. D., at the request of the trustees. 32 p. O. Kingsbury box and printing co., Northhampton, Mass.

"An undated manuscript in the handwriting of President Humphrey . . . the property of Amherst college library. It is published and distributed by the kindness of Mr. F. W. Stearns, of the class of 1878."

544 *Chicago university.* **Hodges, George.** The University of Chicago. (Outlook, May. 80: 86-91.)

A history and description of its growth.

545 ——— **University** of Chicago. (In U. S.—National museum. Report. 1903. p. 491-518.)

A description of the various institutions connected with it, as to their equipment, expenses and usages, and a history of the university itself and what it does. Trustworthy.

546 *Columbia University.* **Columbia** university. (In U. S.—National museum. Report 1903. p. 358-75.)

An authoritative history, and a description as to its finances, tuition fees, buildings, power plant and institutions connected with it.

547 ——— **New** methods at Columbia. (Architectural rec. Feb. 17: 149-50.)

New requirements in regard to the School of architecture.

548 **Thomas, Calvin.** The new program of studies at Columbia College. (Educ. rev. Apr. 29: 325-37.)

A statement of the reasons which led to a change in the curriculum, the advantages or disadvantages of the new program and the attitude of the Faculty upon the matter.

549 *Cornell University.* **Hewett, W. T.** Cornell university, a history. 4 v. Q. New York, The University publishing society. $25.

A many-sided and sympathetic history of the great university from its beginning—including its precursors—to the present day. Amply and appropriately illustrated.

CONTENTS: V. 1, History of the University.
V. 2, History of the various departments and colleges.
V. 3, History of the various activities of the University, as, Societies, Athletics, etc.
V. 4, Register of the Faculty, Trustees and Students.

550 *Harvard University.* **Hatch, M. R. P.** Harvard university; some account of its makers, its library and other buildings and its club life. (New Eng. mag. Nov. 39 (new ser.. 33) : 307-22.)

551 *Illinois University.* **James, E. J.** What the new president is planning for the University of Illinois. (Rev. of rev. Oct. 32: 441-43.)

States the aims and present facilities for work.

552 *Leland Stanford University.* **Leland Stanford junior university.** English club. The first year at Stanford; sketches of pioneer days at Leland Stanford junior university. 159 p. O. English club. Stanford university, $1.

CONTENTS: Jordan, D. S. Early days of Stanford.—Bartlett, E. P. Beginnings in Palo Alto.—Elliott, E. C. The Cornell colony at Palo Alto.—Angell, F. The early history of athletics at Stanford.—Field, C. K. Letters home.—Batchelder, F. J. Early life at the University outside the dormitories.—Batchelder, F. J. Notes on the early organizations at Stanford.—Allen, B. S. "The Frenchman."—Ballard, R. P. The San Francisquito rancho.

553 ——— **Quelle, M. S.** A visit to Stanford university. 85 p. O. University press, $1.

A brief history of the university and of its donor, and a description of the former written in familiar style. Fully illustrated.

554 ——— **Wallace, Folkstone.** Student life at Stanford university (Overland mo. 60 (ser. 2. 45) : 30-39.)

Largely from the recreation side.

555 *Massachusetts institute of technology.* **Massachusetts Institute of Technology** and Harvard University. (Science, June. 21: 969-84.)

Agreement between Harvard University and the Mass. Institute of Technology; extracts from the will and codicils of the late Gordon McKay; extracts from the minority report in favor of alliance; extracts from the report adverse to the alliance adopted by the Faculty.

Concerns the proposed affiliation between them.

556 *Northwestern University.* **Wilde, A. H.** Northwestern university; a history, 1855-1905. Semi-centennial ed. 4 v. O. New York, The University publishing society.

557 *Princeton University.* **Brinton, Christian.** Recent college architecture; 1. Princeton—Pennsylvania. (Booklover's mag. Nov. 6: 547-58.)

A brief history and criticism of the architecture shown in these two universities. Illustrated.

558 ——— **Harper, G. McL.** The new program of studies at Princeton. (Educ. rev. Feb. 29: 141-50.)

A statement and explanation of the reformed system of studies for undergraduates, adopted by the Trustees of Princeton, June, 1905.

559 ——— **Williams, J. R.** The handbook of Princeton, with an introduction by Woodrow Wilson. 154 p. O. Grafton press, $1.50.

CONTENTS: Introduction.—History of the university.—Grounds and buildings of the university.—Upperclass clubs and the university athletic grounds.—The town.—The Princeton theological seminary.—The Lawrenceville school.

A guide book,—tho without the earmarks of one,—describing the interesting and patriotic objects about Princeton and outlining their history. The account is, on the whole, accurate and sympathetic, while many good pictures add greatly to the interest of the book. It is the only book published for more than twenty years which covers this topic at all.

560 *Texas University.* **Garrison, G. P.** The university of Texas and its new president. (Rev. of rev. Dec. 32: 682-85.)

A brief history of the University, its work and its president.

561 *Transylvania University.* **Peter, Robert.** History of the Medical department of Transylvania university; prepared for publication by his daughter, Miss Johanna Peter. 205 p. Q. J. P. Morton & co., $4. (Filson club publications, no. 20.)

562 *University of the South.* **Fairbanks, G. R.** History of the University of the South, at Sewanee, Tennessee, from its founding by the southern bishops, clergy and laity of the Episcopal church in 1857 to the year 1905. 403 p. O. The H. & W. B. Drew company.

563 *Virginia University.* **Kent, C. W.** Thomas Jefferson's university. (Rev. of rev. Apr. 31: 452-59.)

A history of the University of Virginia and a description of its peculiar features, income and teaching force.

564 ——— **Page, T. N.** The University of Virginia. (Scribner, Apr. 37: 396-410.)

A history of the origin, growth and development of the first "real university of this country."

565 *Wisconsin University.* **The jubilee of the University of Wisconsin** in celebration of the fiftieth anniversary of its first commencement. 277 p. O. Madison, The jubilee committee. No price.

Contains the address by T. C. Chamberlin at the 1904 commencement on the state university and research.

566 *Yale University.* **Hadley, A. T.** Educational problems at Yale university. (Science, Oct. n. s. 22: 514-20.)

From the annual report.

Its duty to the students, to the public, and to secondary schools thru entrance requirements.

378.01 *College entrance requirements*

567 **College entrance examination board.** Fifth annual report of the secretary. 53 p. O. Published by the Board. May be had from the secretary, T. F. Fiske, Substation 84, New York city, no charge.

Also published in Educ. rev. Oct. 30:250-302.

"It gives an account of the operations of the Board during its fourth year, and is accompanied by statistical tables showing in detail the more important results of the examinations." See no. 570 below.

568 **College entrance examination board.** Questions set at the examinations held June 19-24, 1905. 113 p. O. Ginn, 60c. net.

The usual administrative data and papers given.

569 **Collins, J. C.** Greek at the universities. Fortn. rev. Feb. 83: 260-71.)

Discussion of the question whether Greek should continue to be required for entrance at Oxford and Cambridge, or whether a compromise would not be well.

570 **Farrand, Wilson.** Five years of the College entrance examination board. (Educ. rev. Oct. 30: 217-30.)

A review of the work of the Board and an estimate of the value of its services to the cause of education.

571 **Foster, W. T.** Should the high school diploma admit to college. (Educ. Dec. 26: 203-8.)

Discusses whether the college should meet the high school, or vice versa, and outlines a plan to solve the problem.

572 **Jordan, M. A.** Report of the delegates to the conference on uniform entrance requirements in English. (School rev. Dec. 13: 795-800.)

Includes names of books advocated for study.

573 **Kirtland, J. C.** The college requirements and the secondary-school work. (School rev. Dec. 13: 818-27.)

Read before the Classics conference of the National educational association, at Asbury Park, July 6, 1905.

A discussion of the preparation necessary, especially in regard to the requirements for Greek and Latin.

574 **Lowell, D. O. S.** Are the present methods of admission to college satisfactory or fair? (Jour. of ped. Sept. 18: 25-34.)

Address delivered before the American institute of instruction, at Portland, Me., July 12, 1905.

Present methods and their faults presented; also a compromise scheme to obviate their defects.

575 **MacLean, G. E.** Admission of students to college by certificate. (Science, Aug. n. s. 22: 167-75.)

The claims of three methods of admission reviewed.

576 **Owen, J. M.** Some student opinions on entrance requirements in English. (Educ. June. 25: 619-26.)

During two school years, in Lewis Institute, Chicago, various questions were asked the pupils as to their choice in the works studied, to which frank replies were given. The opinions of 178 and 122 students were thus gained, the results tabulated and interesting conclusions drawn therefrom.

577 **Stoddard, F. H.** The uniform entrance examinations in English. (Educ. rev. Nov. 30: 375-83.)

Statement of conditions which made their need felt, and of what has been done along this line.

378.2 *Academic degrees*

578 **Adams, G. B.** The degree of Doctor of Philosophy. (Educ. rev. June. 30: 31-40.)

Points out defects in our present method of granting the degree and suggests as improvements that the thesis be not required to be either an original contribution to knowledge or printed.

579 **Foster, W. T.** To what extent should artistic and utilitarian subjects in school and college count towards the degree of A. B.? (School rev. Dec. 13: 805-15.)

A plea for culture studies against the utilitarian ones. Decided that utilitarian ones should not be accepted.

Discussion opened by R. G. Huling.

580 **Hellems, F. B. R.** The course of study and the degrees of state universities. (In National association of state universities in the U. S. Transactions and proceedings of the ninth meeting, Des Moines, 1904. p. 51-58.) Also in Colorado University Publications. v. 2, no. 2.

A summary of results derived from replies received from colleges and universities as to the kind of degree given, the major and minor system of studies, the combining of college and technical courses while doing undergraduate work, and graduate work in universities.

582 **Hudson, Richard.** Are the degrees of Bachelor of science, Bachelor of philosophy and Bachelor of letters to be preserved or to be merged in the degree of Bachelor of arts? (In Association of American universities. Journal of proceedings and addresses of the fifth annual conference, 1904. p. 56-63.)

"The purpose of this paper is to examine the policy of the University of Michigan in regard to the Bachelor's degree, from the date of the establishment of the degree of B. S. to the recent abolition, as far as the Department of Literature, Science and the Arts is concerned, of all forms of the Bachelor's degree except A. B." Author.

583 **Requirements for the Bachelor's degree.** (In North central association of colleges and secondary schools. Proceedings of the tenth annual meeting, 1905. p. 33-51.)

The report is concerned, 1. With a brief view of the history of the A. B. degree.—2. A statement of what the degree should represent in the person receiving it.—3. The requirements which colleges make regarding the methods and means for securing these results; a tabular arrangement of colleges shows definitely each one's requirements for admission and for graduation. These are taken from the college catalogs.—4. The contributions which different subjects make towards the results which the man who receives the degree embodies.—5. The professional concessions and combinations.—6. The inspection of colleges.

584 **Shorey, Paul.** Are the degrees of Bachelor of science, Bachelor of philosophy and Bachelor of letters to be preserved or to be merged in the degree of Bachelor of arts? (In Association of American universities. Journal of proceedings and addresses of the fifth annual conference, 1904. p. 63-75.)

A plea for retaining the distinctive B. A. degree, and a general discussion of the elective system, with its results.

378.3 *Graduate work; research*

For a statement of research work now under way see the *Yearbook* of the Carnegie Institution. See also no. 565.

585 **MacLean, G. E.** Some aspects of graduate work in state universities. (In North central association of colleges and secondary schools. Proceedings of the tenth annual meeting, 1905. p. 85-92.)

General considerations of the present and past conditions of graduate work in America.

586 **Methods for promoting research in the exact sciences.** (In Carnegie institution. Year-book no. 3. 1904. p. 179-93.)

Proposals from several eminent men suggesting how it may be done.

587 **Ritter, W. E.** Organization in scientific research. (Pop. sci. mo. May. 67: 49-53.)

A need, and how it may be satisfied.

588 **West, A. F.** True and false standards of graduate work. (In North central association of colleges and secondary schools. Proceedings of the tenth annual meeting, 1905. p. 71-85.)

The discussion is limited to those liberal studies which do not result in profit to the student. Three aspects of the subject are considered, our standards of knowledge, of expression and of judgment.

589 **Williams, H. S.** What is research? (Pop. sci. mo. June. 67: 170-77.)

A definition, and a statement of requisites in men to be successful in research work.

379 PUBLIC SECONDARY EDUCATION; THE STATE AND EDUCATION

See also 372 for Public elementary education.

See the papers printed in the N. E. A. Proc. p. 423-79 under the Department of Secondary Education.

590 **Leighton, R. L.** The boy and his school; what it can and what it cannot give him. 97 p. O. Murray, 2*s.* 6*p.* net.

Frank, sensible remarks on secondary education for boys as the author has seen it in an English grammar school. Brief comments on various topics in a clear and interesting style.

591 **Macnaughton, D. A.** Utilitarian secondary education. (Contemp. rev. Jan. 87: 51-64.)

Advocates a position midway between the "Philistian ineptitude of the utilitarian and the irrational asceticism of the scholar," for secondary education.

592 **Orr, William.** The high school and civic spirit. (Jour. of ped. Dec. 18: 88-99.)

The question how to fit the boy and girl to enter intelligently on the duties of civic life presented, and illustrated from New York city's experience.

593 **Simkhovitch, Mrs. Vladimir.** The enlarged function of the public school. (In Nat. conference of char. and correction. Proceedings, 1904. p. 471-86.)

Contrasts education obtained in country and city, and shows what New York city is doing to create a more normal development in its children.

594 **Smith, F. W.** Secondary education in the last twenty-five years. (Educ. Sept. 26: 1-13.)

A brief summary of what has been accomplished, in which the larger points of development are considered.

379.11 *School funds and finances. Taxation*

595 **Allen, W. H.** The importance of publicity in educational and charitable work. (No. Amer. rev. July. 181: 24-32.)

With special reference to what is done in New York city and speaking particularly of how the money for schools is spent.

596 **Cubberley, E. P.** School funds and their apportionment; a consideration of the subject with reference to a more general equalization of both the burdens and the advantages of education. 255 p. O. New York, Teachers college, Columbia university, $1.50. (Teachers coll. cont. to educ. No. 2.)

With particular reference to the proper distribution of the school revenues at hand, so as to secure the best results, being based upon, and illustrated by, a statistical study of the subject. Advocates, 1st, a State system of schools rather than a series of local systems; 2d, that, being for the common good, the burden must be borne by all; 3rd, aid should be given proportionately to the needs and efforts of a community. Discusses various changes in our national life as affecting education, the existing inequalities, provisions for relief made and being made; then takes up the question of the distribution of present funds and considers the various bases upon which it can be made.

597 **Elliott, E. C.** Some fiscal aspects of public education in American cities. (Teachers coll. record, Nov. 6: 1-101.)

Published in Teachers college contributions to education. no. 6.

A statistical study of expenditures in various cities for educative and other activities. Gives measurement and causes of variability and the relationships of the various standards of expenditure.

598 **Harris, W. T.** The political economy in school finances: some of the conditions which cause variation in the rate of school expenditures in different localities. (Educ. rev. May. 29: 486-509.)

Read before the National Educational Association, Milwaukee, Wis., Mar., 1905. Published also in the N. E. A. Proc. p. 195-213.

A presentation of economic conditions in the United States, and illustrated by various tables of statistics.

599 **National educational association—Committee on taxation as related to public education.** Report to the National council of education. 87 p. O. Irwin Shepard, Winona, Minn., 10c.

This committee, with J. M. Greenwood as chairman, was appointed in 1902. The report shows expenditures for maintenance and operation of schools in leading American cities as apportioned among 8 principal items. The results for each item are compared and discussed. The following valuable papers deal with methods of taxation in specific localities.

Maxwell, W. H.—Methods of school taxation in New York city.

Schaeffer, N. C.—Taxation for school purposes.

Coon, C. L.—Twenty-five years' progress of public education in North Carolina; a comparative statistical study of school maintenance in the south.

Schaeffer, N. C.—Taxation for state purposes in Pennsylvania.

Carr, J. W.—Methods of taxation for school purposes in Indiana.

600 **Strayer, G. D.** City school expenditures; the variability and interrelation of the various items. 104 p. O. The Columbia university press, 30c. (Teachers coll. cont. to educ. no. 5.)

A study of the distribution of the money spent for schools among the various items of the budget, and is an attempt to discover the normal amount for each item by a study of current practice as shown by data obtained from fifty-eight cities of between ten and fifty thousand inhabitants, located in Massachusetts, Rhode Island, Connecticut, New York and New Jersey. The results are tabulated, arranged and explained, and conclusions drawn therefrom.

Published also in the Teachers college record. May, v. 6, no. 3.

Reviewed at length in Educ. Rev. 30: 531.

379.14 *School laws*

601 **Charter provisions as related to the organization and reorganization of school systems.** (In N. E. A. Proc. p. 214-23, 231-35.)

W. H. Maxwell considers the state's duty in education matters and what provisions are necessary in organizing a system.

F. L. Soldan discusses the changes brought about in education when new charters are given.

602 **Draper, A. S.** Educational legislation in the United States in 1904. (Educ. rev. Apr. 29: 387-93.)

From the Review of general legislation in the United States for 1904, published by the N. Y. state Educational department.

A brief summary of legislation "so far as it may seem to reflect any maturing of popular sentiment, indicate any new popular purpose, or create any real change in plans of organization or methods of procedure." Divided by topic; as, Finances, Teachers, Attendance, &c.

603 **Eliot, E. C.** A non-partisan school law. (In N. E. A. Proc. p. 223-31.)

A description of the workings of the school law in St. Louis, Mo.

604 **Major, D. R.** School legislation in Ohio. (School rev. Mar. 13: 221-31.)

Aims to state "briefly some of the more notable features of the so-called 'Education Act,' and to indicate some of its points of merit." A reply to rather severe editorial criticisms of the Act.

605 **N. Y. (state)—Education dep't.** Educational legislation, 1905. 14 p. O. Alb., N. Y. state education department, gratis.

Consists of acts of general importance relating to public education, passed by the legislature of 1905.

379.15 *School supervision*

See also Section 371.2

606 **Allen, W. H.** School policy via school facts. (School rev. June. 13: 475-91.)

A presentation of the value and uses of school reports and statistics, with special reference to New York city.

Shows the need for more adequate information respecting the results of school polity.

607 **Bruce, W. G.** Recent progress in school administration. (In N. E. A. Proc. p. 828-31.)
Enumerates present tendencies and points out noteworthy changes made.

608 **Butterfield, K. L.** Rural education. (Amer. jour. of soc. Mar. 10: 615-19.)
Suggestions for solving the problem of the country school, and also for giving a better agricultural education.

609 **Mowry, Duane.** The board of education in large cities. (Educ. Oct. 26: 71-79.)
A plea for the elective school board, as against the appointive system.

610 **Roark, R. N.** Economy in education; a practical discussion of present-day problems of educational administration. 252 p. D. American book company, $1.
"This book is the third in the series of which 'Psychology in education' is the first, and 'Method in education' is the second."—Pref.
"Economy in education, as a division of pedogogy, has to do with the conserving and directing of all the external influences which, combined with the innate self-activity of the pupil, produce the results we call right education. It means the careful and economical use of time, money and energy in equipping pupils to live their lives rightly." Author's preface. This book deals with the externals of the educative forces in the community and is divided under three heads. 1st. Organization and management of the individual school, or the individual teacher's work; 2d. The organization and administration of school systems, or the lawmaker's duty; 3d. Correlation and useful direction of the educative forces of the school and the community, or, both working reciprocally. Each topic is treated very definitely and the central idea of a paragraph is emphasized by heavier type. Frequent references given in footnotes point to further research. The keynote of the book seems to be utility and practicability. The author is Dean of the Department of Pedagogy at the Kentucky State College.

611 **Sanders, T. E.** Management and methods for rural and village teachers. 312 p. D. The C. J. Bell co., $1.

612 **Wells, K. G.** Women on school boards. (No. Amer. rev. Sept. 181: 428-34.)
Suggestions for guidance and what they may do.

379.2 *Illiteracy*

613 **U. S.—Census, Bureau of.** Illiteracy in the United States. 54 p. Q. Government printing office, gratis. (U. S.—Dep't of Commerce and Labor. Bulletin 26.)
"A discussion and analysis of the statistics of illiteracy contained in the report of the Twelfth and preceding censuses, prepared under the supervision of Prof. W. F. Willcox, of Cornell University, Special agent of the Bureau of the Census." Many tables of statistics and diagrams on all phases of this subject illustrate and explain it, making the work very complete and valuable.

379.23 *Compulsory education*

614 **Cotton, F. A.** Compulsory education in Indiana. (In Nat. conference of char. and correction. Proceedings, 1904. p. 274-80.)
A glance at the history of compulsory education, at what has been done in Indiana, and why it is necessary.

615 **Giddings, F. H.** The social and legal aspect of compulsory education and child labor. (In N. E. A. Proc. p. 111-13.)
An abstract.

616 **Hand, W. H.** Some arguments for compulsory education. (In Conference for education in the south. Proceedings of the eighth annual conference, 1905. p. 77-83.)
Arguments made with especial reference to the South, of which but two states, West Virginia and Kentucky, have compulsory education laws. Direct and conclusive, the arguments being reinforced by comparative statistics.

617 **Martin, G. H.** Child labor and compulsory education,—the school aspect. (In N. E. A. Proc. p. 103-11.)
Social conditions described and viewed from the standpoint of "What is right for the child," and the question of his education considered.

618 **Perrin, J. W.** Compulsory education in New England, 1850-1890. (Jour. of ped. June. 17: 251-76.)
A history of compulsory education in Massachusetts.

379.5 *Secondary education in special countries*

Europe

619 **Henrotin, E. M.** Secondary education in Europe and the United States. (Educ. rev. Oct. 30: 231-42.)
A criticism of the educational exhibits at the St. Louis exposition. Gives some idea of the work done in the two places.

620 **Vanderlip, F. A.** Political problems of Europe as they interest Americans: 3rd paper. Government education. (Scribner's, Mar. 37: 338-53.)
Considers the need of education as seen by governments and shows the typical character of that undertaken in Germany, France, England and Switzerland.

France

621 **Education in France.** (In U. S.—Education, Comm'r of. Report for 1903. 1: 585-622.)
A survey of educational progress to 1902 by means of statistical summaries, and a detailed account of the various classes of schools which are included, in the French system, under the division of primary education. Contains a bibliography of previous articles on this subject found in former Reports.

Great Britain

The British government publishes many important documents on education at home and in the colonies. A list of these may be had on application to the government printers Eyre and Spottiswoode, London.

The great English "public schools" for boys are under 373. See also nos. 276 and 277.

622 **Adkins, F. J.** Tekel; a study of educational problems of the day. 242 p. D. Sonnenschein, 3*s.* 6*d.*
"On the whole, rather disappointing on account of its incompleteness and the journalistic style in which it is written. It is concerned chiefly with the faults of English elementary school methods." Schoolmasters' Yearbook. Much of the subject-matter has appeared in the *Saturday Review*, the *Journal of Education*, and the chapter on *Strengthening the foundations* is reprinted from the *Westminster Review* for Feb., 1905.

623 **Brereton, Cloudesley.** A comparison between English and French secondary schools. (Jour. of educ. Jan. 36: 27-29, Feb. 123-26.)

A brief comparison, discussing for the two countries, the relationships to the Central authority, the head masters, the organization of the teaching professions, internal economy and administration of the schools, examinations, degrees given, curricula, methods of teaching various subjects, and the characteristics of the English and of the French school boy.

624 **The direction and method of education.** (Quarterly rev. Jan. 202: 197-220.)

Deals with English education as molded and developed thru legislation.

625 **Education in Great Britain and Ireland—1903.** In U. S.—Education, Comm'r of. Report for 1903. 1: 227-71.)

Brief conspectuses of public elementary education, with detailed accounts of important current events and a statistical review showing progress since 1870. Includes also secondary, technical and university education.

626 **Egerton, Hakluyt.** The maintenance of denominational teaching: a note upon Section 7 (1) of the education act, 1902. 109 p. D. G. Allen. *1s. 6d.* net.

An interpretation, discussion and argument of the question whether the Education act of 1902 enables or compels a Local education authority to "maintain" religious instruction in a non-provided, public, elementary school, deciding in the negative.

627 **Grant, E. H.** The education of the masses. (Jour. of educ. July. 36: 497-99.)

An outline of the improvident, careless life of the people, with suggestions as to how the school system is to blame for it.

628 **Macnamara, T. J.** The state and secondary education. (Independent rev. 6: 47-55.)

What little the state has done and what it ought to do, stated.

629 **O'Donovan, J.** The churches and the child. (Independent rev. Feb. 5: 78-89.)

A frank consideration of the claims of the Roman Catholic church to educate the child, as put forth in Great Britain, Ireland and the United States, and concluding that the Church ought to reconsider her position.

630 **Paton's list of schools and tutors, 1905-6.** 927 p. D. Paton, *1s. 6d.*

Eighth annual edition. Bulletins of the schools are professedly advertisements, but few important schools are omitted. It justifies its title, "An aid to parents in the selection of schools."

631 **Schoolmasters' yearbook and directory 1905.** 558 p. D. Sonnenschein, *5s.*

The third annual issue of an invaluable reference book of secondary education in England and Wales. Part 1, 456 gives among a mass of useful general information, a general review of the year; the personnel, organization and important acts of government administrative bodies; lists of educational societies, universities, colleges and medical schools; latest information on examinations and inspection; a somewhat scrappy bibliography, chiefly of English publications. Part 2 is an alphabetical list of secondary schools and schoolmasters. Brief information is included in this latter list of the English public schools which is, however, found in greater detail in the Public schools year-book. "A new feature of this book is particulars as to Minor Local Education Authorities."

632 **Varley, Telford.** Board of education regulations for secondary schools; from a head master's point of view. (Jour. of educ. Sept. 37: 638-41.)

Their application considered as to: 1. Mode of assessing grant, 2. mode of controlling schools, 3. financial basis of grant, 4. the effect on schools hitherto aided, 5. the effect on Local Authorities.

633 **Watson, Foster.** The educational situation in England, 1904. (School rev. Feb. 13: 105-26.)

Conditions presented as they are, with suggestions for lines of development or improvement. Contains also a bibliography for further study.

634 **Yoxall, J. H., and Gray, Ernest.** The New Code, 1905, of regulations for public elementary schools, with schedules, regulations for evening schools, etc. 416 p. O. Education Supply Assoc., 1*s.* net.

Contains laws in regard to various kinds of education and schools, training of teachers, building, health, religious education, &c.

635 *Birkenhead.* **Sadler, M. E.** Report on secondary education in Birkenhead; with chapters on the evening schools and technical classes, and on the training of teachers. 131 p. O. G. Philip, 1*s.* net.

A clear and comprehensive description of the educational system of this place written by an expert. Statistics of numbers in various schools, the courses of study, &c., are given, also accounts of the work being done with suggestions for improvements which make the report valuable and well worth careful study. All phases of educational work are considered.

636 *Derbyshire.* **Sadler, M. E.** Report on secondary and higher education in Derbyshire. 192 p. O. Bemrose.

637 *Exeter.* **Sadler, M. E.** Report on secondary and higher education in Exeter. 71 p. O. Western times.

638 *Hampshire.* **Sadler, M. E.** Report on secondary and higher education in Hampshire. 154 p. O. Holbrook, (Portsmouth.)

A detailed description of the work and prospects of the schools in this county, with some interesting preliminary remarks upon education in general. Figures showing the proportionate number of pupils to population are also included.

639 *Huddersfield.* **Sadler, M. E.** Report on secondary and technical education in Huddersfield. 126 p. O. Jubb, 1*s.*

640 *London.* **Education in London under the administration of the London school board.** (In U. S.—Education, Comm'r of. Report for 1903. 1: 273-92.)

A favorable survey of its work which was brought to a close by the new law outlined in Chapter 3 of this report.

641 *Newcastle-upon-Tyne.* **Sadler, M. E.** Report on secondary and higher education in Newcastle-upon-Tyne. 89 p. O. Newcastle-upon-Tyne education committee, 1*s.*

The outcome of an inquiry made by an expert into the condition of education in Newcastle-upon-Tyne. Contains a statistical survey and a detailed description of the recommendations and suggestions to fit the exact conditions, with a financial summary and estimate for carrying out the plans suggested.

Poland

642 **The boycott of the schools in Russian Poland.** (Rev. of rev. Sept. 32: 352-54.)

An exposition of present conditions and reasons for them.

Spain

643 **Moore, S. H.** Education in Spain. (Jour. of educ. June. 36: 435-37.)
A description of present conditions.

United States

Matter on education in the separate states is arranged alphabetically under names of these states at the end of this general section.
See also nos. 51, 52, 63, 64, 65.

644 **Brown, E. E.** Secondary education. (In U. S.—Education, Comm'r of. Report for 1903. 1: 553-83.)
An historical and statistical account of its origin, growth and present condition in the United States.

645 **Carman, G. N.** The secondary school in the Middle West. (Educ. rev. Mar. 29: 286-93.)
A plea for the broadening of the curriculum, for the introduction of the elective system into the secondary schools, with reasons why people fear to do so.

646 **Draper, A. S.** Unsettled questions in the organization and administration of the schools. (Lewis and Clark educ. cong. p. 24-40.)
Local vs. central initiative and control; Distribution of state and local funds; Competent teaching and supervision; Large vs. small schools.

647 **Educational organization and progress in American cities;** a symposium on present educational conditions and needs. (Annals of Amer. acad. Jan. 25: 157-88.)
Contains a digest of school laws; also a brief exposition of educational conditions in the following cities: New York, Chicago, Philadelphia, Boston, Baltimore, Cleveland, Buffalo, Cincinnati, Pittsburg, New Orleans, Milwaukee, Washington, Providence, Kansas City. Grand Rapids, Seattle, Duluth.

648 **Halleck, R. P.** Why do so many pupils leave the public high school during the first year? (School rev. Sept. 13: 551-59.)
Read before the Department of secondary education at the meeting of the National educational association, July 4, 1905.

649 **Hammond, L. H.** Some aspects of Southern education. (World to-day, Aug. 9: 832-36.)
Largely in regard to its resources, and the education of negro and white.

650 **Kern, O. J.** Phases of modern education. The consolidation of rural schools. (Educ. Sept. 26: 14-26.)
A presentation of what has already been accomplished in various states, and of further needs. Includes statistics.

651 **Lang, O. H.** The educational outlook. (Forum, Jan.-Mar. 36: 429-42; Apr.-June, 586-603; July-Sept. 37: 69-84; Oct.-Dec. 259-71.)
Certain present-day problems, as course of study, time in school, adequate educational facilities, &c., considered with the view to their solution; also educational conditions and needs, especially in regard to New York city; correlation of studies; the teacher's ability, and a criticism or abstract of results in educational fields shown at the N. E. A. meeting at Asbury Park.

652 **Means of increasing the efficiency of our public-school work.** (In N. E. A. Proc. p. 180-94.)

CONTENTS: Providing better teachers, by J. W. Carr.—Adequate leadership, progressive teachers and fewer subjects, by C. G. Pearse.—Changing the view-point, by W. I. Crane.

653 **Orcutt, H. M.** Children of immigrants in the public schools. (Outlook, Sept. 81: 74-78.)

Deals largely with New York conditions, but shows the need for individual training, hence smaller classes for a teacher to handle.

654 **Patterson's college and school directory of the United States and Canada.** 559 p. O. Amer. educ. co., $5.

Edited by H. L. Patterson. Contains "a complete list and description of all the schools, colleges and other institutions of higher education; a list of college Greek letter fraternities, their chapters and where located; a list and description of college newspapers and publications; a list of college, theological, law, medical, state and public libraries, with name of librarian and number of bound volumes; also a list of the state and county superintendents of public instruction, city superintendents, high school and graded high school principals, together with much other information embodying a complete educational directory." Subdivided largely by states.

655 **Richman, Julia.** The immigrant child. (In N. E. A. Proc. p. 113-21.)

A presentation of conditions caused by our immigrants, and especially as they affect our schools. The problem discussed of how best to reach the children and train them into American citizens.

656 **Robson, E. S. A.** Report of a visit to American educational institutions. 174 p. O. Sherratt & Hughes, 1*s.* net.

An instructive general account of education in the United States. Statistics of attendance, teachers' salaries, &c., are also given. The author sees much to admire, especially in the organization of the secondary school systems and in the technical instruction, but feels that our teachers are inadequately paid, that athletics are being overdone and that the weak point in university education is that any place may call itself a university, and grant degrees.

657 **Rogers, H. J.** Education in reference to our future industrial and commercial development. (Lewis and Clark educ. cong. p. 102-13.)

Why cannot our secondary schools do as much or even more than European trade, technical and industrial schools? We must, both as a good business investment and for better citizenship.

658 **Showerman, Grant.** Eastern education thru Western eyes. (Educ. rev. Dec. 30: 474-87.)

The impression of the educational system of the East receivel by a Western born and Western educated professor, after a year spent in a professor's chair in the East.

Illinois

659 **Riley, T. J.** The higher life of Chicago. 136 p. O. University of Chicago press.

CONTENTS: Pt. I. The educational interests of Chicago.—Pt. II. The normal and social interests of Chicago.—Pt. III. The æsthetic and religious interests of Chicago.—Pt. IV. Appendix: tab. I. Women's clubs in Chicago. tab. II. Social settlements in Chicago. tab. III. Charities in Chicago.

As a compendium of the facts relating to the varied activities included above, this book is of much value both for reference and for further stimulation of cultural and altruistic endeavor. Dial.

Indiana

660 **Hedgepeth, B. W. B.** The six-year high-school plan at Goshen, Ind. (School rev. Jan. 13: 19-23.)

Read at the 18th Educational Conference, held Nov., 1904, at the University of Chicago.

A brief statement of the reasons for adopting the plan, and of what has been done.

New York City

661 **Canfield, Dorothy.** A model city school. World's work, July 10: 6418-22.)

The work done by Horace Mann school in New York with scientific methods of teaching described.

662 **Johnson, C. C.** What the public schools achieve. (World's work, July. 10: 6365-73.)

From the business point of view. Shows the practical results from the training given in various branches in New York schools.

663 **Palmer, A. E.** The New York public school; being a history of free education in the city of New York, authorized by the Board of education; introduction by Seth Low. 440 p. O. Macmillan, $1.

Bibliography: p. xxi-xxii.

Written by the secretary of the New York school board and authorized by the Board.

Ohio

664 **Burns, J. J.** Educational history of Ohio; a history of its progress since the formation of the state, together with the portraits and biographies of past and present state officials. 756 p. Q. Columbus, O., Historical publishing co., $5.

665 **An educational policy for Ohio.** (Jour. of ped. Dec. 18: 113-22.)

Conditions in Ohio described, criticised, and suggestions for improvement made.

AUTHOR INDEX

The numbers refer to item, not to page. Anonymous books and articles, and periodical titles, are not entered, but entries are made for authors of reviews and for the names of persons about whom articles or books are written. For subject arrangement see scheme of classification at the beginning.

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III

COLLEGE ENTRANCE EXAMINATION BOARD

SIXTH ANNUAL REPORT OF THE SECRETARY

THE EXAMINATIONS OF 1906

Organization

At the sixth annual meeting of the College Entrance Examination Board, held at Columbia University, New York, November 11, 1905, President Butler of Columbia University was elected chairman; Dean Crane of Cornell University was elected vice-chairman; and Professor Fiske of Columbia University was elected secretary and treasurer. Dean Pendleton of Wellesley College, President Thwing of Western Reserve University, and Mr. Farrand of the Newark Academy were elected to serve with the chairman and vice-chairman as members of the executive committee.

At the same meeting Williams College was by a unanimous vote admitted to membership in the Board, making the total membership of the Board twenty-eight universities and colleges and seven secondary-school representatives.

A committee was appointed to consider and report at the next meeting of the Board as to what standard, if any, should be fixed for admission to membership in the Board, and it was referred to the same committee to consider and report as to the desirability of establishing dues of membership to be paid annually by the colleges and universities belonging to the Board. At the meeting of the Board held April 21, 1906, the committee made a report recommending the establishment of a definite standard for admission to membership in the Board, and recommending that annual dues of one hundred dollars be imposed on every college holding membership in the Board, said fees to be used primarily for promoting greater efficiency in the conduct of the examinations. The recommendations of the

Committee were made a special order for the next meeting of the Board, which will be held on November 10, 1906.

Publications

In addition to the publications mentioned in previous reports of the secretary, the following have been issued to date:

FIFTH ANNUAL REPORT OF THE SECRETARY, . . SEPTEMBER 1, 1905

This report, published in the EDUCATIONAL REVIEW for October, 1905, was printed also separately for free distribution among those interested in the work of the Board. It gives an account of the operations of the Board during the fifth year of its existence and is accompanied by statistical tables showing in detail the more important results of the examinations. It contains a list of all the secondary schools that have prepared candidates for the Board's examinations during the years 1901 to 1905.

DOCUMENT NO. 24, ... OCTOBER 2, 1905

List of examiners for 1906.

DOCUMENT NO. 25, ... DECEMBER 1, 1905

This document contains the constitution of the Board, the list of subjects in which examinations were offered in 1906, and detailed definitions of the requirements in each subject. A copy of this document will be sent to any address upon receipt of ten cents in postage stamps.

EXAMINATION QUESTIONS IN LATIN AND GREEK, 1901-1905, DECEMBER 1, 1905

This volume, published for the Board by Ginn & Company, may be obtained thru any bookseller for forty cents a copy. If it is ordered from Ginn & Company direct, the mailing price is fifty cents. It contains all the examination questions in Latin and Greek, set at the examinations from the establishment of the Board to 1905 inclusive. The volume contains 162 pages.

EXAMINATION QUESTIONS IN ENGLISH, GERMAN, FRENCH AND SPANISH, 1901-1905, ... DECEMBER 1, 1905

This volume, published for the Board by Ginn & Company, may be obtained thru any bookseller for thirty cents a copy. If it is ordered from Ginn & Company direct, the mailing price is thirty-five cents. It contains all the examination questions in English, German, French and Spanish set at the examinations from the establishment of the Board to 1905 inclusive. The volume contains 97 pages.

EXAMINATION QUESTIONS IN MATHEMATICS, 1901-1905, DECEMBER 1, 1905

This volume, published for the Board by Ginn & Company, may be obtained thru any bookseller for twenty-five cents a copy. If it is ordered from Ginn & Company direct, the mailing price is thirty cents. It contains all the examination questions in mathematics set at the examinations from the establishment of the Board to 1905 inclusive. The volume contains 70 pages.

EXAMINATION QUESTIONS IN HISTORY, 1901-1905, . DECEMBER 1, 1905

This volume, published for the Board by Ginn & Company, may be obtained thru any bookseller for twenty-five cents a copy. If it is ordered from Ginn & Company direct, the mailing price is thirty cents. It contains all the examination questions in history set at the examinations from the establishment of the Board to 1905 inclusive. The volume contains 71 pages.

EXAMINATION QUESTIONS IN BOTANY, DRAWING, CHEMISTRY, GEOGRAPHY AND PHYSICS, 1901-1905, . . . DECEMBER 1, 1905

This volume, published for the Board by Ginn & Company, may be obtained thru any bookseller for twenty cents a copy. If it is ordered from Ginn & Company direct, the mailing price is twenty-five cents. It contains all the examination questions in botany, drawing, chemistry, geography and physics set at the examinations from the establishment of the Board to 1905 inclusive. The volume contains 51 pages.

DOCUMENT No. 26, ... JANUARY 1, 1906

Instructions to supervisors in charge of examinations.

DOCUMENT No. 27, ... APRIL 12, 1906

List of places at which arrangements were made for holding examinations, June 18-23, 1906.

EXAMINATION QUESTIONS OF 1906, ... AUGUST 31, 1906

This volume, published for the Board by Ginn & Company, may be obtained thru any bookseller for sixty cents a copy. If it is ordered from Ginn & Company direct, the mailing price is seventy cents. It contains all the examination questions of 1906, together with the names of the examiners who framed the questions in each subject and the readers who rated the answer-books in each subject. It includes also the time schedule of the examinations of 1906, and a brief account of the plan of organization and aims of the Board.

Administration

The time-schedule of examinations which went into operation this year, made it necessary to provide for a number of examinations in which two examinations already established were combined. For example, in June, 1906, the following examinations were held:

Latin *dq.* Virgil—*Æneid,* Books I-VI, and sight translation of Latin Poetry.
Greek *ch.* Homer—*Iliad,* Books I-III, and sight translation from Homer.
French *bc.* Intermediate and advanced French.
German *bc.* Intermediate and advanced German.
Mathematics *cd.* Plane and solid geometry.

At the examinations it became apparent that there is a distinct demand also for an additional examination

Latin *be.* Cæsar—*Gallic War,* Books I-IV, and Nepos—First 15 *Lives.*

As in previous years, the applications for examination that were filed at the last moment testified in a striking way to the spirit of procrastination that characterizes the human race. Of the 2432 candidates examined this year, 1068 filed applications on the last two days allowed by the regulations, and 175 paid the fee of five dollars required in the case of belated applications. As a result, more than half of the applications had to be handled at a period when the pressure of business was heaviest.

A number of letters were received from New England schools protesting that the week in which the Board's examinations are held has been chosen most unfortunately. However, any change in the time of the examinations would undoubtedly bring out equally strong, or even stronger protests from other sections of the country.

Upon the recommendation of the examiners in chemistry, the form of teacher's certificate required in connection with laboratory note-books in chemistry was modified. The certificate will in future contain the following statement:

> The attention of the teacher signing this certificate is called to the fact that a satisfactory laboratory note-book in chemistry must contain:
>
> (1) A brief description in the pupil's own words of the materials and apparatus employed and the operations performed in each experiment, sketches being used to represent apparatus where this is practicable;
>
> (2) Records in the pupil's own words of phenomena as actually observed in the course of each experiment;
>
> (3) A statement of the important conclusions which may properly be drawn from the phenomena as observed.
>
> Special importance will be attached to the evidences which the note-book affords of independent and careful thought on the part of the pupil, as indicated by ability to recognize and express clearly the significance of the work actually performed. Statements which have been merely transcribed from text-books or manuals will not be accepted as satisfactory.

The body of the certificate will read as follows:

> I certify that this note-book is a true record of laboratory exercises in chemistry actually performed by.....in connection with a course in the subject of chemistry at the.....school during the year..... These notes have been inspected and corrected

by a competent instructor and the pupil has been required to pay proper attention to such corrections.

At the meeting of the Board held April 21, 1906, the Board appointed a committee of five to consider and report at the next meeting upon the best method of making such changes and modifications in the definitions of entrance requirements as may from time to time become desirable, and the secretary was requested to lay before this committee for its consideration any communications relative to changes in the requirements that might be in his hands, or that might be received by him before the next meeting of the Board.

New Examination Subjects

At the meeting held November 11, 1905, the Board adopted a requirement in zoölogy, and at the meeting held April 21, 1906, it adopted a requirement in music. Examinations will be held in these subjects for the first time in June, 1907. The requirement in zoölogy was recommended to the Board by a committee of the American Society of Zoölogists; that in music was recommended by a joint committee representing the Eastern Educational Music Conference and the New England Education League.

Award of Competitive Scholarships

A number of competitive scholarships were as usual awarded on the basis of the Board's examinations. Among them were the Pulitzer scholarships awarded to students of the high schools of New York City, the scholarships awarded to candidates for admission to the Freshman classes of Columbia College and Barnard College, the competitive scholarship offered by the Intercollegiate Association of Memphis, and a scholarship established by the Wellesley Club of Philadelphia.

The highest average percentage received by a candidate for a competitive scholarship was 90 per cent. which was obtained by Mr. Adolph C. Meyer, of the Morris High School, a candidate for a Pulitzer scholarship. The Memphis Intercollegiate scholarship was won by Miss Ruth G. Williford, of the Misses Thomas's School. The scholarship offered by the Wellesley Club of Philadelphia was won by Miss Edith H. Murphy, of Miss Hills's School.

Examiners

The full list of examiners for 1906 was as follows:

BOTANY

William Francis Ganong.....Professor of Botany, Smith College
University of New Brunswick, B.A., 1884, and M.A., 1886; Harvard University, A.B., 1887; University of Munich, Ph.D., 1894

Henrietta Edgecomb Hooker, Professor of Botany, Mount Holyoke College
Syracuse University, Ph.B., 1888, Ph.M., 1888, and Ph.D., 1888

Louis Murbach, Teacher of Biology, Central High School, Detroit, Mich.
University of Michigan, Ph.B., 1889, and B.S., 1890; University of Leipzig, Ph.D., 1894

CHEMISTRY

Henry Paul Talbot, Professor of Inorganic and Analytical Chemistry, Massachusetts Institute of Technology
Massachusetts Institute of Technology, S.B., 1885; University of Leipzig, Ph.D., 1890

Louis Munroe Dennis, Professor of Inorganic Chemistry, Cornell University
University of Michigan, Ph.B., 1885, and B.S., 1886

Charles Morse Allen, Instructor in Chemistry, Pratt Institute, Brooklyn, N. Y.
Wesleyan University, B.A., 1882, and M.A., 1886

DRAWING

Ralph Edward Mayer, Adjunct Professor of Mechanical Drawing, Columbia University
Columbia University, C.E., 1879

Charles Laban Adams, Associate Professor of Drawing and Descriptive Geometry, Massachusetts Institute of Technology

Manton Elwell Merchant, Teacher of Drawing, Erasmus Hall High School, Brooklyn, N. Y.

ENGLISH

Byron Satterlee Hurlbut, Assistant Professor of English, Harvard University
Harvard University, A.B., 1887, and A.M., 1888

Laura Johnson Wylie.....Professor of English, Vassar College
Vassar College, A.B., 1877; Yale University, Ph.D., 1894

Theodore C. Mitchill, Teacher in the Boys' High School, Brooklyn, N. Y.
Columbia University, A.B., 1886, and A.M., 1901

FRENCH

Adolphe Cohn, Professor of the Romance Languages and Literatures, Columbia University
University of Paris, A.B., 1868, LL.B., 1873, and A.M., 1874

Charles Hall Grandgent, Professor of Romance Languages, Harvard University
Harvard University, A.B., 1883

Louise Guebin, Teacher in the Packer Collegiate Institute, Brooklyn, N. Y.

GEOGRAPHY

Albert Perry Brigham, Professor of Geology and Natural History, Colgate University
Colgate University, A.B., 1879, and A.M., 1882; Harvard University, A.M., 1892

Florence Bascom, Associate Professor of Geology, Bryn Mawr College
University of Wisconsin, B.A., and B.L., 1882, B.S., 1884, and M.A., 1887; The Johns Hopkins University, Ph.D., 1893

William Henry Snyder, Teacher of Science, Worcester Academy, Worcester, Mass.
Colby College, A.B., 1885; Harvard University, A.M., 1888

GERMAN

Hermann Collitz, Professor of Comparative Philology and German, Bryn Mawr College
University of Göttingen, A.M., and Ph.D., 1879

Frank Vogel, Professor of Modern Languages, Massachusetts Institute of Technology
Harvard University A.B., 1887, and A.M., 1892

Thomas Stockham Baker, Professor of German, The Jacob Tome Institute, Port Deposit, Md.
The Johns Hopkins University, A.B., 1891, and Ph.D., 1895

GREEK

Herbert Weir Smyth, Eliot Professor of Greek Literature, Harvard University
Swarthmore College, A.B., 1876; Harvard University, A.B., 1878; University of Göttingen, Ph.D., 1884

Edward Henry Spieker, Associate Professor of Greek and Latin, The Johns Hopkins University
The Johns Hopkins University, A.B., 1879, and Ph.D., 1882

Allen Rogers Benner, Professor of Greek, Phillips Academy, Andover, Mass.
Harvard University, A.B., 1892

HISTORY

William Mac Donald.....Professor of History, Brown University
Harvard University, A.B., 1892; Union University, Ph.D., 1895; University of New Brunswick, LL.D., 1900

Marshall Stewart Brown, Professor of History and Political Science, New York University
Brown University, Ph.B., 1892, and M.A. 1893

Elizabeth Briggs, Teacher of History, Dr. Sachs's School for Girls, New York, N. Y.
Graduate of Harvard Annex, 1887; Cornell University, A.M., 1891

LATIN

Kirby Flower Smith, Professor of Latin, The Johns Hopkins University
University of Vermont, A.B., 1884; The Johns Hopkins University, Ph.D., 1889

Nelson Glenn McCrea.....Professor of Latin, Columbia University
Columbia University, A.B., 1885, A.M., 1886, and Ph.D., 1888

John Tetlow, Headmaster of the Girls' High and Latin Schools, Boston, Mass.
Brown University, A.B., 1864, A.M., 1879, and D.Sc., 1893

MATHEMATICS

Frank Nelson Cole.....Professor of Mathematics, Columbia University
Harvard University, A.B., 1882, A.M. and Ph.D., 1886

Henry Seely White.....Professor of Mathematics, Vassar College
Wesleyan University, B.A., 1882; University of Göttingen, Ph.D., 1890

Arthur Schultze, Teacher of Mathematics, The High School of Commerce, New York, N. Y.
University of Kiel, Ph.D., 1887

PHYSICS

Edward Leamington Nichols....Professor of Physics, Cornell University
Cornell University, B.S., 1875; University of Göttingen, Ph.D., 1879

Francis Cuyler Van Dyck, Professor of Physics and Experimental Mechanics, Rutgers College
Rutgers College, A.B., 1865, and A.M., 1868; Union University, Ph.D., 1888

Frank Rollins, Principal of the Stuyvesant High School, New York, N. Y.
Wesleyan University, A.B., 1889; Columbia University, Ph.D., 1902

SPANISH

Hugo Albert Rennert, Professor of Romance Languages and Literatures, University of Pennsylvania
University of Pennsylvania, B.Sc., 1876, LL.B., 1881, and M.A., 1890; University of Freiburg, Ph.D., 1892

Fonger DeHaan....Associate Professor of Spanish, Bryn Mawr College
The Johns Hopkins University, Ph.D., 1895

Camille Fontaine, Teacher of Romance Languages, The High School of Commerce, New York, N. Y.
University of Paris, B.L., 1874, B.D., 1876, and L.D., 1877

The Examinations

The examinations were held during the week beginning Monday, June 18, in accordance with the time schedule printed on pages 4 and 5 of Document No. 23. The total number of candidates examined was 2432, an increase of 355 over the number examined in 1905.

The candidates attending the Board's examinations in the years 1901-1906 inclusive, if classified according to the points at which they were examined, were as indicated in the following table:

	New England	Middle States	South and West	Foreign
1901.....	81	812	76	4
1902.....	147	1026	175	14
1903.....	224	1115	274	7
1904.....	292	1249	257	19
1905.....	387	1345	328	17
1906.....	564	1493	369	6

Classified according to residence, the candidates were as indicated in the following table:

	New England	Middle States	South and West	Foreign	Not Stated
1901....	48	814	101	6	4
1902....	118	1007	218	17	2
1903....	204	1062	337	7	10
1904....	248	1254	288	20	7
1905....	314	1344	385	30	4
1906....	457	1489	464	12	10

Classified according to the institutions that they expected to enter, the candidates were as indicated in the following table:

	New England	Middle States	South and West	Canada	Not Stated
1901....	78	819	3	0	73
1902....	152	1046	25	0	139
1903....	314	1183	14	0	109
1904....	436	1247	30	0	104
1905....	553	1343	40	1	140
1906....	884	1291	37	2	218

The examinations were held in 1906 at 140 points, of which four were in Europe, as shown in the following table:

TABLE IV

Places at which Examinations were Held June 18-23, 1906, and the Number of Candidates Examined at Each Place

North Atlantic Division

Maine:

Eastport	0
Old Town	2
Portland	38
Waterville	1
	41

New Hampshire:

Berlin	2
Concord	18
Exeter	13
Keene	9
	42

Vermont:

Burlington	2

Massachusetts:

Andover	9
Beverly	7
Boston	98
Dalton	5
Duxbury	11
Gloucester	9
Great Barrington	12
Groton	5
Lowell	5
Mount Hermon	2
New Bedford	11
Norwood	12
South Hadley	22
Springfield	56
Ware	8
Wellesley	25
Williamstown	24
Worcester	12
	333

Rhode Island:
- Providence 8

Connecticut:
- Bridgeport 21
- Danbury 8
- Hartford 18
- Lakeville 6
- New Haven 33
- Stamford 27
- Torrington 6
- Washington 19

—— 138

New York:
- Albany 30
- Binghamton 3
- Brooklyn 105
- Buffalo 24
- Dobbs Ferry 7
- Elmira 4
- Gloversville 4
- Hudson 3
- Ithaca 44
- Lake Placid 1
- New York University 33
- Columbia University. 532
- Barnard College..... 222
- Ossining 9
- Poughkeepsie 39
- Rochester 9
- Schenectady 2
- Syracuse 2
- Tarrytown 3
- Utica 7
- Watertown 2
- Yonkers 21

——1106

New Jersey:
- Asbury Park 13
- Bordentown 15
- Jersey City 10
- Newark 79
- New Brunswick 5
- Paterson 13
- Plainfield 26
- Princeton 20
- Trenton 3

—— 184

Pennsylvania:
- Allegheny 23
- Bethlehem 3
- Erie 1
- Lancaster 10
- Mercersburg 10
- Pennsburg 1
- Philadelphia 48
- Pottstown 61
- Reading 4
- Scranton 1
- Warren 2
- Wayne 29
- Wilkes-Barre 7

—— 200

South Atlantic Division

Delaware:
- Wilmington 3

Maryland:
- Baltimore 12

District of Columbia:
- Washington 30

North Carolina:
- Asheville 8

Georgia:
- Atlanta 4
- Savannah 3

—— 7

South Central Division

Kentucky:
- Louisville 8

Tennessee:
- Memphis 13
- Nashville 1

—— 14

Alabama:
- Mobile 0
- Montgomery 1

—— 1

Louisiana:
- New Orleans 2

Texas:
- Austin 1
- Dallas 6
- El Paso 3
- Houston 0

—— 10

Arkansas:
- Little Rock 13

North Central Division

Ohio:
- Akron 11
- Cincinnati 19
- Cleveland 14
- Columbus 5
- Dayton 3
- Toledo 1
- Youngstown 12

—— 65

Indiana:
- Fort Wayne 1
- Indianapolis 9
- Lima 21

—— 31

Illinois:
- Chicago 43

Michigan:
- Detroit 10
- Grand Rapids 0
- Saginaw W. S. 1

—— 11

Wisconsin:
- Eau Claire 0
- Milwaukee 13

—— 13

Minnesota:
- Duluth 3
- Minneapolis 7

—— 10

Iowa:
- Burlington 4
- Des Moines 3
- Dubuque 0
- Sioux City 1

—— 8

Missouri:
- Kansas City 6
- St. Louis 15

—— 21

South Dakota:
- Aberdeen 3
- Sioux Falls 4

—— 7

Nebraska:
- Omaha 2

Kansas:
- Lawrence 1

Western Division

Montana:
- Butte 2
- Helena 3

—— 5

Colorado:
- Denver 6

Utah:
- Ogden 1
- Salt Lake City 8

—— 9

Washington:
- Tacoma 0

Oregon:
- Portland 10

California:
- Belmont 1
- Los Angeles 13
- San Mateo 3

—— 17

Insular Territories and Dependencies

Hawaii:
- Honolulu 5

Foreign

England:
- London 2

France:		Switzerland:	
Paris	0	Geneva	2
Germany:			2432
Dresden	2		

The following table classifies the candidates for examination according to residence:

TABLE V

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO RESIDENCE

NORTH ATLANTIC DIVISION		Minnesota	13
Maine	42	Iowa	10
New Hampshire	18	Missouri	25
Vermont	7	North Dakota	1
Massachusetts	285	South Dakota	7
Rhode Island	6	Nebraska	2
Connecticut	99	Kansas	4
New York	1086		264
New Jersey	251		
Pennsylvania	146	WESTERN DIVISION	
	1940	Montana	6
		Wyoming	1
SOUTH ATLANTIC DIVISION		Colorado	9
Delaware	6	New Mexico	2
Maryland	18	Arizona	0
District of Columbia	32	Utah	12
Virginia	7	Nevada	1
West Virginia	1	Idaho	1
North Carolina	2	Washington	1
South Carolina	1	Oregon	11
Georgia	8	California	19
Florida	3		63
	78		
		INSULAR TERRITORIES AND DEPENDENCIES	
SOUTH CENTRAL DIVISION		Hawaii	6
Kentucky	9	Porto Rico	1
Tennessee	18		7
Alabama	2		
Mississippi	2		
Louisiana	0	FOREIGN	
Texas	14	Canada	4
Arkansas	12	Cuba	1
Oklahoma	1	England	1
Indian Territory	0	Germany	2
	58	Mexico	1
		Panama	1
NORTH CENTRAL DIVISION		Argentine Republic	2
Ohio	77		12
Indiana	34		
Illinois	58	Residence not stated	10
Michigan	16		
Wisconsin	17		2432

The following table classifies the candidates for examination according to age:

TABLE VI

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO AGE

AGE	
Thirteen years	2
Fourteen "	16
Fifteen "	135
Sixteen "	410
Seventeen "	713
Eighteen "	610
Nineteen "	320
Twenty "	122
Twenty-one "	38
Twenty-two "	24
Twenty-three "	10
Twenty-four "	4
Twenty-five "	4
Twenty-six "	3
Twenty-seven "	1
Twenty-eight "	1
Thirty "	2
Thirty-four "	1
Forty-three "	1
Fifty-six "	1
Age not stated	14
	2432

The following table shows the several colleges and scientific schools to which the candidates for examination declared themselves to be seeking admission:

TABLE VII

INSTITUTIONS TO WHICH ADMISSION WAS SOUGHT BY CANDIDATES FOR EXAMINATION

Amherst College	4
Bates College	1
Biltmore Forestry School	1
Boston University	3
Brooklyn Polytechnic Institute	1
Brown University	7
Bryn Mawr College	25
Carleton College	1
Case School of Applied Science	2
Colby College	2
Colgate University	1

Columbia University:		
Columbia College	198	
Schools of Applied Science	228	
Barnard College	171	
Teachers College	11	
College of Physicians and Surgeons	30	
Law School	2	
School of Architecture	12	
College of Pharmacy	2	
Department not stated	33	
Columbia Students	37	724
Cornell University:		
Academic Department	45	
Technical Schools	207	
Medical School	5	
Law School	4	
Department not stated	27	
Cornell Students	5	293
Dartmouth College		8
Hamilton College		1
Harvard University	104	
Harvard Students	4	108
Johns Hopkins University		1
Lehigh University		4
Leland Stanford, Jr., University		7
Massachusetts Institute of Technology		94
Mount Holyoke College		118
McGill University		2
New York Normal College		1
New York Training School for Teachers		3
New York University:		
University College	3	
School of Applied Science	7	
Medical School	1	
Department not stated	4	15
Ohio State University		1
Princeton University:		
Princeton College	16	
Green Scientific School	25	
Department not stated	8	49
Purdue University		5
Radcliffe College		5
Rutgers College		1
Smith College		122
Stevens Polytechnic Institute		1
Syracuse University		1
Trinity College (Hartford)		2
Tufts College		2
Union University		5
University of California		5
" " Chicago		1

University of Maine		1
" " Michigan		1
" " Pennsylvania		7
" " Rochester		1
" " Virginia		1
" " Wisconsin		2
Vanderbilt University		1
Vassar College	157	
Vassar College Students	1	158
Washington and Lee University		1
Wellesley College		165
Wesleyan University		1
Western College for Women		1
Williams College		112
Woman's College of Baltimore		3
Worcester Polytechnic Institute		2
Yale University:		
Academic Department	68	
Sheffield Scientific School	49	
Department not stated	12	129
Preference not stated		219
		2432

The following table classifies the candidates for examination according to the institution last attended:

TABLE VIII

CANDIDATES FOR EXAMINATION CLASSIFIED ACCORDING TO SCHOOLS

NORTH ATLANTIC DIVISION			
Maine:			
Biddeford	High School		1
Oldtown	High School		2
Portland	Deering High School		9
	Portland High School		15
	Waynflete School		5
	Westbrook Seminary		2
Waterville	Coburn Classical Institute		1
Woodfords	Deering High School		1
New Hampshire:			
Berlin	High School		2
Concord	High School		1
	St. Paul's School		12
Contoocook	Hopkinton High School		1
Exeter	Phillips Exeter Academy		11
Keene	High School		5
	Tilden's (Miss) Home School		1
Kingston	Sanborn Seminary		1
Manchester	High School		2
Plymouth	High School		1

Vermont:		
Bellows Falls	High School	3
Burlington	University of Vermont	1
Massachusetts:		
Amherst	"Fairholme"	1
Andover	Phillips Academy	10
Ashburnham	Cushing Academy	1
Athol	High School	1
Attleboro	High School	3
Beverly	High School	2
Bolton	Houghton High School	2
Boston	Bellow's (Mr. and Mrs. J. A.) School for Girls	1
	Boston Normal School	1
	Brown's (Miss) Classical School	1
	Church's (Miss) School	1
	Elm Hill School	5
	Girls' High School	2
	Haskell's (Miss) School	2
	Linfield School	1
	May's (Misses) School	1
Bourne	High School	1
Bradford	Bradford Academy	2
Braintree	High School	2
Bridgewater	State Normal School	1
Cambridge	Berkeley Street School	1
	Cambridge Latin School	3
	Lee School	2
	Manter Hall	12
Canton	High School	1
Chicopee	High School	2
Concord	Concord School	2
	High School	4
Dalton	High School	4
Deerfield	Deerfield Academy	1
Duxbury	Powder Point School	12
East Hampton	Williston Seminary	4
Essex	High School	1
Fairhaven	High School	3
Foxboro	High School	1
Gloucester	High School	8
Grafton	High School	1
Great Barrington	Searles High School	8
Greenfield	High School	2
	Prospect Hill School	2
Groton	High School	5
Hadley	Hopkins High School	3
Hanover	High School	2
Hingham	High School	1
Holyoke	High School	23

Leicester	Leicester Academy	3
Lowell	High School	1
Lynn	Lynn Classical High School	1
Malden	Oxford School	1
Manchester	High School	1
Medford	High School	1
	Tufts College	1
Milford	High School	4
Millis	High School	1
Milton	Milton Academy	1
Montague	High School	1
Mount Hermon	Mount Hermon School	2
Natick	Walnut Hill School	14
New Bedford	High School	5
	Mosher Home Preparatory School	2
Newton	Mt. Ida School	1
Newtonville	Newton High School	4
North Adams	Drury High School	1
	North Adams Normal School	1
North Andover	Johnson High School	4
Northampton	Burnham School for Girls	1
	High School	10
Northfield	Northfield Seminary	2
Norton	High School	1
	Wheaton Seminary	4
Norwood	High School	5
Peabody	High School	1
Pittsfield	High School	3
	Hall School for Girls	3
Quincy	High School	1
Randolph	Stetson High School	1
Roxbury	High School	1
Salem	Classical and High School	2
Saugus	High School	1
Sharon	High School	2
South Braintree	Thayer Academy	3
Springfield	Central High School	20
	MacDuffie School	1
	Mechanic Arts High School	1
Swampscott	High School	4
Taunton	High School	1
Waltham	High School	2
	New-Church School	1
Ware	High School	8
Watertown	Cambridge Country School	2
Wellesley	Dana Hall	8
Wellesley Hills	Wellesley High School	2
West Boylston	High School	1
Westfield	High School	2
West Springfield	High School	1
Whitman	High School	1

Williamstown	High School	1
	North Side College Preparatory School	7
Winchester	High School	3
Winthrop	High School	4
Worcester	Classical High School	2
	South High School	1
	West Classical High School	1
	Worcester Academy	1
Wrentham	High School	3
Rhode Island:		
Newport	St. George's School	3
Providence	Lincoln School	1
	Sacred Heart Convent	1
Connecticut:		
Ansonia	High School	3
Bethel	High School	1
Bridgeport	Chase School for Boys	1
	Courtland School	6
	High School	12
Cheshire	Cheshire School	12
Danbury	High School	8
Farmington	Porter's (Miss) School	4
Glastonbury	High School	2
Greenwich	Greenwich Academy	1
	Rosemary Hall	1
Hartford	High School	4
Lakeville	Hotchkiss School	7
Naugatuck	High School	6
New Britain	Public High School	1
New Haven	High School	4
	Johnstone's (Miss) School	8
	University School	1
	Yale Medical School	1
Seymour	High School	1
Simsbury	Westminster School	1
South Manchester	High School	2
Stamford	Betts Academy	12
	Katherine Aiken School	1
	Manor School	13
Suffield	Suffield Literary Institution	1
Thompsonville	Enfield School	1
Torrington	High School	6
Wallingford	Choate School	4
Washington	Gunnery School	13
	The Ridge	4
	Wykeham Rise	1
Waterbury	Crosby High School	1
	Waterbury High School	1

Watertown	Taft School	2
Westport	Staples High School	1
Willimantic	Windham High School	1

New York:

Albany	Albany Academy	16
	Albany Female Academy	1
	Fenimore Cooper's School	2
	High School	2
	St. Agnes' School	2
Amsterdam	High School	1
Aurora	Somes' School	1
Binghamton	High School	1
Brewster	High School	1
Brockport	State Normal School	2
Brooklyn	Adelphi Academy	7
	Boys' High School	28
	Brooklyn Latin School	1
	Commercial High School	2
	Eastern District High School	7
	Erasmus Hall High School	10
	Girls' High School	6
	Heffley Preparatory School	2
	Manual Training School	7
	Packer Collegiate Institute	7
	Polytechnic Institute	1
	Polytechnic Preparatory School	16
	Prospect Heights School	2
	Public School 86	1
Buffalo	Buffalo Seminary	1
	Central High School	2
	Franklin School	2
	Heathcote School	2
	Lafayette High School	8
	Masten Park High School	1
	Nicholas School	3
Canisteo	High School	1
Cherry Valley	High School	1
Cohoes	Egbert High School	3
Corning	Corning Free Academy	1
Dobbs Ferry	Mackenzie School	7
Ellenville	High School	1
Elmhurst	Newton High School	2
Far Rockaway	High School	4
Florida	S. S. Seward Institute	2
Flushing	Flushing Seminary	1
	High School	8
Fredonia	State Normal School	1
Freeport	High School	1
Garden City	St. Mary's School	1
	St. Paul's School	3

Gilbertville	High School	2
Gloversville	High School	2
Hudson	High School	2
Huntington	High School	1
Ithaca	Cascadilla School	19
	High School	10
	Stiles's Preparatory School	1
	University Preparatory School	9
Jamaica	High School	6
	State Normal School	1
Kingston	Kingston Academy	2
Lawrence	High School	1
	Lawrence School	1
Long Island City	Bryant High School	2
Malone	Franklin Academy	1
Mamaroneck	High School	1
Mohegan	Mohegan Lake School	4
Mt. Vernon	High School	5
New Brighton	Botsford's (Miss) School for Girls	2
	Curtis High School	6
	Staten Island Academy	2
Newburgh	Newburgh Academy	1
New Hartford	High School	1
New Rochelle	High School	6
New York	Alcuin School	3
	Barnard School for Boys	6
	Barnard School for Girls	3
	Berkeley School	6
	Blake School	2
	Brearley School	2
	Browning School	1
	Chapin Collegiate School	2
	Charleton School	1
	Chase Preparatory School	2
	College of the City of New York	14
	Collegiate School	21
	Columbia College	1
	Columbia Grammar School	45
	Columbia Institute	2
	Cooper Union	1
	Craigie School	2
	Cutler School	11
	De Lancey School	2
	De La Salle Institute	1
	De Witt Clinton High School	119
	Dwight School	11
	Ethical Culture School	19
	Froebel Normal Institute	1
	Friends' Seminary	1
	Gerrish's (Miss) Collegiate School for Girls	5

New York	Girls' Technical High School	2
	Graham's (Misses) School	2
	Groff School	2
	Hamilton Institute	8
	Hamilton Institute for Girls	2
	Harlem Evening High School	1
	High School of Commerce	6
	Holy Cross Academy	1
	Horace Mann School	67
	Irving School	15
	Joseph Preparatory School	1
	Keller's (Miss) Day School	1
	Kelvin School	7
	Lake School	1
	Loyola School	2
	Madison School for Girls	1
	Morgan's (Mrs. Leslie) School	1
	Morris High School	77
	Nathan Hale School	1
	New York Collegiate Institute	1
	Normal College	8
	Ornstein's (Miss) Classes	2
	Perry's (Dr.) School	1
	Public School 69	1
	Rayson's (Misses) School	3
	Sachs's Collegiate Institute for Boys	14
	Sachs's Collegiate Institute for Girls	2
	Senftner Preparatory School	4
	St. Agatha	1
	St. Lawrence Academy	5
	St. Mary's School	4
	Syms School	2
	Trinity School	15
	University Settlement	1
	Veltin's (Miss) School	8
	Wadleigh High School	45
	Woodbridge School	7
	Young Men's Institute	2
Niagara Falls	High School	1
Ossining	Holbrook's (Dr.) School	8
	Mt. Pleasant Military Academy	2
	High School	1
	Ossining School for Girls	1
Peekskill	Peekskill Military Academy	1
	Worral Hall Military Academy	1
Poughkeepsie	Lyndon Hall	2
	Putnam Hall	11
	Riverview Military Academy	19
Rainbow Lake	Adirondack-Florida School	1
Ripley	High School	1
Rochester	Bradstreet Preparatory School	1

Rochester	East High School	4
	Mechanics Institute	1
Rye	Rye Seminary	2
Saratoga Springs	High School	1
Saugerties	High School	1
Scarsdale	St. David's Hall	1
Schenectady	High School	2
Syracuse	Goodyear-Burlingame School	1
	Jenner's Preparatory School	1
Tarrytown	Castle (The)	3
	Hackley School	1
Troy	Emma Willard School	1
Utica	Balliol School	2
	Utica Free Academy	4
Walden	High School	1
Watertown	High School	1
Weedsport	High School	1
Whitehall	High School	1
Windsor	High School	1
Yonkers	High School	18

New Jersey:

Asbury Park	High School	5
Bayonne	High School	2
Blairstown	Blair Presbyterial Academy	1
Bloomfield	High School	3
Boonton	High School	1
Bordentown	Bordentown Military Institute	15
Bound Brook	High School	1
Bridgeton	Ivy Hall School	1
Burlington	St. Mary's Hall	1
Convent Station	St. Elizabeth's Academy	1
Cranford	High School	1
East Orange	High School	14
East Rutherford	High School	1
Elizabeth	Battin High School	5
	Pingry School	4
	Vail-Deane School	1
Englewood	Helicon Hall	1
	High School	2
Flemington	High School	1
Freehold	High School	1
Hackensack	High School	3
Haddonfield	High School	1
Hoboken	High School	2
	Hoboken Academy	4
	Stevens School	3
Jersey City	Bergen School for Girls	2
	Hasbrouck Institute	3
Kearny	High School	1
Lakewood	Lakewood School	1

Lawrenceville	Lawrenceville School	14
Livingston	High School	1
Long Branch	Chattle High School	2
Montclair	Cloverside School	1
	High School	18
	Montclair Military Academy	1
Moorestown	Friends' Academy	1
Morristown	Morris Academy	1
	Morristown School	2
Newark	Newark Academy	22
	High School	9
	Newark Seminary	1
New Brunswick	Rutgers Preparatory School	2
Newton	High School	1
Orange	Beard's (Miss) School	2
	Carteret Academy	7
	High School	4
Passaic	High School	1
Paterson	Paterson Collegiate Institute	1
	High School	2
	Hoover's (Miss) School	3
Perth Amboy	High School	1
Phillipsburg	High School	1
Plainfield	Hartridge School	4
	Leal's (Dr.) School for Boys	4
	Stillman High School	12
Princeton	Princeton Preparatory School	1
	Princeton School	10
	Princeton University Tutorial Institute	1
Red Bank	Shrewsbury Academy	1
Rutherford	High School	3
	Park School	1
Somerville	High School	2
South Orange	Brantwood Hall	1
Summit	High School	1
	Kent Place School	3
Trenton	New Jersey State Model School	3
Union	High School	1
Union Hill	High School	2
Wenonah	Wenonah Academy	1
Westfield	High School	1
West Hoboken	High School	1
West Orange	High School	1

Pennsylvania:

Allegheny	Allegheny Preparatory School	1
Bellefonte	Bellefonte Academy	1
Bethlehem	Bethlehem Preparatory School	1
Blairsville	Blairsville College	1
Bradford	High School	1
Bryn Mawr	Baldwin's (Miss) School for Girls	2

Bryn Mawr	Shipley's (Mrs.) School	1
Butler	High School	1
Chambersburg	Wilson College	1
Chester	Pennsylvania Military College	1
Columbia	High School	1
Germantown	Walnut Lane School	1
Glenshaw	High School	1
Haverford	Haverford School	2
Hazelton	High School	1
Kennett Square	Cedarcroft School	1
Kingston	Wyoming Seminary	5
Lancaster	Stahr's (Miss) School	2
	Yeates School	4
Lebanon	High School	3
Lewisburg	Bucknell University	1
Lititz	Linden Hall	1
Mercersburg	Mercersburg Academy	13
New Castle	High School	1
Overbrook	Sayward's (Miss) School	2
Pennsburg	Perkiomen Seminary	1
Philadelphia	Chestnut Hill Academy	6
	Childs Preparatory Class	2
	De Lancey School	1
	High School for Girls	4
	Hills's (Miss) School	1
	Holman School for Girls	1
	William Penn Charter School	13
	Wissahickon Heights School	3
Pittsburg	Central High School	2
	East End Preparatory School	2
	Gleim's (Miss) School	1
	Shadyside Academy	8
Pottstown	Hill School	62
Pottsville	High School	1
Reading	Girls' High School	1
Saltsburg	Kiskiminetas Springs School	1
Scranton	School of the Lackawanna	1
Sharon	High School	1
Swarthmore	Swarthmore Preparatory School	1
Warren	High School	2
Washington	Trinity Hall	1
	Washington Seminary	1
Wayne	St. Luke's School	29
Westtown	Westtown Boarding School	1
Wilkes-Barre	City High School	1

South Atlantic Division

Delaware:

Wilmington	Friends' School	2
	Hebb's (Misses) School	1

Maryland:		
Baltimore	Arundell School	1
	Baltimore City College	1
	Boys' Latin School	1
	Marston's University School	2
	University School for Boys	1
Catonsville	Beaumont School	2
	St. Timothy's School	1
Forest Glen	National Park Seminary	1
Port Deposit	Jacob Tome Institute	7
Reistertown	Hannah More Academy	1
District of Columbia:		
Washington	Army and Navy Preparatory School	2
	Central High School	3
	Eastern High School	1
	Emerson Institute	1
	Friends' Select School	11
	Hall-Noyes Preparatory School	1
	Washington School for Boys	3
	Western High School	5
Virginia:		
Hampton	Hampton College	1
Newport News	High School	1
	Newport News Academy	1
Orange	Woodberry Forest School	1
North Carolina:		
Asheville	Asheville School	7
Charlotte	Presbyterian College	1
Georgia:		
Atlanta	Boys' High School	1
	Georgia School of Technology	1
	Peacock School for Boys	1
Savannah	High School	1
	West's (Miss) School	1
South Central Division		
Kentucky:		
London	Sue Bennett Memorial School	1
Louisville	Flexner School	1
	Girls' High School	1
	Manual Training High School	1
	Paterson-Davenport School	2
Maysville	Hayswood Seminary	1
Tennessee:		
Memphis	Higbie School	1
	High School	1
	St. Mary's School	11
	Thomas's (Misses) School	2
Murfreesboro	Mooney School	1

Alabama:		
Birmingham	Allen's (The Misses) School	1
Texas:		
Dallas	Cowart Hall	2
	High School	1
	St. Mary's Preparatory School	3
El Paso	High School	3
San Antonio	High School	1
Arkansas:		
Little Rock	Arkansas Military Academy	2
	High School	9
	Peabody High School	1
North Central Division		
Ohio:		
Ada	Ohio Northern University	1
Akron	High School	4
	Oak Place School	3
Blanchester	High School	1
Cincinnati	Butler's (Miss) School	1
	Cincinnati University School	4
	Collegiate School	3
	Educational Institute	1
	Franklin School	3
	Technical School	1
	Terrace Park High School	1
	Walnut Hills High School	1
Circleville	Evert's High School	1
Cleveland	Central High School	2
	East High School	1
	University School	9
	West High School	1
	Western Reserve University	1
Columbus	Central High School	1
Dayton	Steele High School	2
East Cleveland	Shaw High School	1
Norwood	High School	1
Salem	High School	2
Toledo	Smead School	1
	High School	1
Youngstown	Rayen School	9
Indiana:		
Indianapolis	Girls' Classical School	1
	Knickerbocker Hall	2
	Shortridge High School	3
Lima	Howe Military School	21
Terre Haute	High School	1

Illinois:		
Bloomington	High School	1
Chicago	Armour Institute	1
	Ascham Hall	1
	Chicago Latin School	5
	Francis Parker School	6
	Harvard School	2
	Lake View Institute	1
	Lewis Institute	1
	University High School	5
	University School for Boys	9
	University School for Girls	2
Dixon	High School	1
Evanston	Evanston Classical School	1
Normal	Illinois State Normal University	1
Riverside	High School	1
Wyoming	High School	1
Michigan:		
Bay City	High School	1
Detroit	Central High School	2
	Detroit University School	7
Ironwood	High School	1
Wisconson:		
Fond du Lac	Grafton Hall	1
Hudson	High School	1
La Crosse	High School	2
Milwaukee	East Division High School	1
	Milwaukee Academy	10
	Milwaukee-Downer College	1
Stevens Point	State Normal School	1
Minnesota:		
Duluth	Central High School	1
	University School	1
Faribault	Shattuck School	8
St. Paul	Backus's (Mrs.) School	4
Iowa:		
Burlington	High School	1
Davenport	High School	2
Des Moines	West Des Moines High School	2
Ottumwa	High School	1
Missouri:		
Kansas City	Central High School	1
	Prosso Preparatory School	1
Macon	Blees Military Academy	1
Pierce City	High School	1

St. Louis	Central High School	1
	Mary Institute	10
	Smith Academy	3
	Washington University	2
South Dakota:		
Aberdeen	High School	2
	Northern Normal and Industrial School	1
Sioux Falls	All Saints' School	4
Kansas:		
Holton	High School	1
Lawrence	High School	1
WESTERN DIVISION		
Montana:		
Butte	High School	1
Great Falls	High School	1
Lewiston	High School	1
Colorado:		
Denver	East Side High School	2
	Manual Training High School	1
	Wolcott's (Miss) School	1
Utah:		
Ogden	Ogden City High School	1
Salt Lake City	High School	8
Oregon:		
Portland	Allen Preparatory School	1
	Portland Academy	6
	St. Helen's Hall	2
California:		
Los Angeles	Girls' Collegiate School	1
Nordhoff	Thacher School	2
Palo Alto	High School	1
Pasadena	Classical School for Boys	1
	English Classical School for Girls	1
	High School	1
	Los Robles School	4
	Throop Polytechnic Institute	1
Redlands	Union High School	1
San Francisco	Bates University School	1
	Lyceum Preparatory School	1
	Polytechnic High School	1
	Raymond Coaching School	1
	University School	1
Santa Barbara	Hicks School	1

INSULAR TERRITORIES AND DEPENDENCIES		
Hawaii:		
Honolulu	Oahu College	5
	St. Louis College	1
FOREIGN		
Germany:		
Dresden	Franklin College	2
Switzerland:		
Engelberg	College of Engelberg	1
Geneva	Chateau de Lancy	1
Russia:		
Kishineff	Realina Uchilischehe	1
Roumania:		
Bucharest	Gymnasium Comtemio-Voda	1
India:		
Lucknow	Isabella Koburn College	1
Private Tutors		31
Self-Preparation		1
Preparatory Schools not stated		27
Columbia University Students		41
Cornell University Students		10
Harvard University Students		5
New York University Students		1
Vassar College Students		1

The following table classifies the candidiates for admission according to the class or type of preparatory school attended:

TABLE IX

	NUMBER OF SCHOOLS	NUMBER OF CANDIDATES
Public high schools	277	1001
Academies and endowed schools	93	406
Private schools	236	905

In this table no account is taken of candidates already admitted to college or of candidates from institutions in regard to which the secretary is without information.

Work of the Readers

As hitherto the work of the readers was done at the offices of the Board in New York. The number of readers serving in connection with the examinations was this year 98; in 1905 the corre-

sponding number was 83. The names of the readers for the present year are given in the following list:

BOTANY

Willard Winfield Rowlee.....Professor of Botany, Cornell University
Cornell University, B.L., 1888, and D.Sc., 1893

Elsie Kupfer, Instructor in Biology, Wadleigh High School, New York, N. Y.
Columbia University, A.B., 1899, and A.M., 1901

CHEMISTRY

James Flack Norris.....Professor of Chemistry, Simmons College
The Johns Hopkins University, A.B., 1892, and Ph.D., 1895

Charles Morse Allen, Instructor in Chemistry, Pratt Institute, Brooklyn, N. Y.
Wesleyan University, B.A., 1882, and M.A., 1886

Victor John Chambers, Tutor in Organic Chemistry, Columbia University
University of Rochester, B.S., 1895; The Johns Hopkins University, Ph.D., 1901

Charles Henry Ellard, Tutor in Analytical Chemistry, Columbia University
Columbia University, A.B., 1897, and A.M., 1900

William Fox Roantree, Teacher of Mathematics and Science, Sachs's Collegiate Institute, New York, N. Y.
Colgate University, A.B., 1904

Walter George Whitman, Instructor in Physics and Chemistry, Ethical Culture School, New York, N. Y.
Tufts College, A.B., 1898

DRAWING

Thomas Henry Harrington.....Tutor in Drawing, Columbia University
Columbia University, C.E., 1889

Arthur H. Flint, Instructor in Drawing, Commercial High School, Brooklyn, N. Y.

ENGLISH

Henry Greenleaf Pearson, Assistant Professor of English, Massachusetts Institute of Technology
Harvard University, A.B., 1893

Nathaniel Waring Barnes, Instructor in English, Ohio Wesleyan University
Columbia University, A.B., 1903, and A.M., 1905

George Wyllys Benedict, Associate Professor of English, Brown University
University of Vermont, A.B., 1893; Harvard University, A. M., 1897, and Ph.D., 1899

Armour Caldwell.....Lecturer in English, Columbia University
Columbia University, A.B., 1902

Sarah Eleanor Dudley.....Instructor in English, Vassar College
Vassar College, A.B., 1897

Daniel B. Duncan, Teacher of English, Columbia Grammar School, New York, N. Y.
Upper Iowa University, Ph.B., 1890

Charles Galwey, Tutor in the English Language and Literature, College of the City of New York
New York University, A. B., 1901

Jeannette Bliss Gillespy, Instructor in English and History, Dearborn-Morgan School, Orange, N. J.
Columbia University, A.B., 1900

William Echard Golden, Head of the English Department, Polytechnic Preparatory School, Brooklyn, N. Y.
Indiana University, A.B., 1888, and A.M., 1890

Orie Latham Hatcher.....Reader in English, Bryn Mawr College
Vassar College, A.B., 1888; University of Chicago, Ph.D., 1903

Grace Harriet Kupfer, Principal, and Instructor in English, Alcuin Preparatory School, New York, N. Y.
Normal College, A.B., 1892; New York University, A.M., 1900

Clark Sutherland Northup, Assistant Professor of the English Language and Literature, Cornell University
Cornell University, B.A., 1893, and Ph.D., 1898

Emily Wheeler Tyler, Late Teacher of English, Miss Brown's Classical School for Girls, Boston, Mass.
Boston University, Ph.B., 1887, and A.B., 1906

FRENCH

Albert Schinz, Associate Professor of French Literature, Bryn Mawr College
University of Neuchatel, A.B., 1888, and A.M., 1889; University of Tübingen, Ph.D., 1893

Luther Herbert Alexander, Tutor in French, College of the City of New York
Toronto University, A.B., 1883, and A.M., 1885

John Driscoll Fitz-Gerald, Tutor in the Romance Languages and Literatures, Columbia University
Columbia University, A.B., 1895, and Ph.D., 1906

Harry Egerton Ford, Professor of Romance Languages, Washington and Jefferson College
Toronto University, A.B., 1895, and A.M., 1899

John Glanville Gill, Instructor in Romance Languages, Harvard University
Ottawa University, A.B., 1896; Harvard University, A.M., 1905, and Ph.D., 1906

Pierre J. Marique.....Tutor in French, College of the City of New York

Virginia Newcomb, Teacher of French and German, Short Hills School, Short Hills, N. J.
Columbia University, A.B., 1900, and A.M., 1902

Cornelia Hephzibah Bulkley Rogers, Associate Professor of Romance Languages, Vassar College
Wellesley College, A.B., 1884; Yale University, Ph.D., 1894

Louis Alexandre Roux, Master of French and Latin, Newark Academy, Newark, N. J.
Brown University, A.B., 1894

GEOGRAPHY

Amadeus William Grabau, Professor of Palæontology, Columbia University
Massachusetts Institute of Technology, S.B., 1896; Harvard University, S.M., 1898, and S.D., 1900

William Wallace Clendenin, Teacher of Physiography, Wadleigh High School, New York, N. Y.
Missouri State University, B.Sc., 1886, and M.Sc., 1889; Harvard University, A.M., 1891

GERMAN

Frank Vogel, Professor of Modern Languages, Massachusetts Institute of Technology
Harvard University, A.B., 1887, and A.M., 1892

Anna Erdmann, Teacher of German, Packer Collegiate Institute, Brooklyn, N. Y.

Emilie A. Flintermann....Instructor in German, Mount Holyoke College
University of Michigan, Ph.B., 1898

Frederick William Justus Heuser, Tutor in the Germanic Languages and Literatures, Columbia University
Columbia University, A.B., 1901, and A.M., 1902

Emil Alexander Charles Keppler, Tutor in German, College of the City of New York
Columbia University, Ph.B., 1895, and A.M., 1897

Frederick William Charles Lieder, Instructor in German, Harvard University
Cornell University, B.A., 1902, and M.A., 1903

August Prehn, Teacher of German, Columbia Grammar School, New York, N. Y.
University of Münster, Ph.D., 1883

Arthur Frank Joseph Remy, Instructor in the Germanic Languages and Literatures, Columbia University
College of the City of New York, A.B., 1890; Columbia University, A.M., 1897, and Ph.D., 1901

Mélanie Constanze Richardt, Teacher of German, Collegiate School, New York, N. Y.

Rudolf Tombo, Instructor in German, Alcuin Preparatory School, New York, N. Y.
University of Rostock, Ph.D., 1870

GREEK

Charles Knapp....Professor of Classical Philology, Columbia University
Columbia University, A.B., 1887, A.M., 1888, and Ph.D., 1890

Roscoe Guernsey .....Tutor in Greek, Columbia University
Union College, A.B., 1896; The Johns Hopkins University, Ph.D., 1901

Grace Harriet Macurdy....Associate Professor of Greek, Vassar College
Radcliffe College, A.B., 1888; Columbia University, Ph.D., 1903

Oliver Samuel Tonks, Preceptor in Art and Archæology, Princeton University
Harvard University, A.B., 1898, A.M., 1899, and Ph.D., 1903

Alice Van Vliet, Director of Latin and Greek, Packer Collegiate Institute, Brooklyn, N. Y.
University of Chicago, A.B., 1896

HISTORY

Arthur Charles Howland, Assistant Professor of Mediæval History, University of Pennsylvania
Cornell University, B.A., 1893; University of Pennsylvania, Ph.D., 1897

Elizabeth Briggs, Teacher of History, Dr. Sachs's School for Girls, New York, N. Y.
Graduate of Harvard Annex, 1887; Cornell University, M.A., 1891

Louis Ogden Condit, Teacher of History, Riverview Military Academy, Poughkeepsie, N. Y.
New York University, A.B., 1903

Howard Levi Gray.....Teaching Fellow in History at Harvard University
Harvard University, A.B., 1898, and A.M., 1900

Sarah Louise Hadley, Teacher of History, Berkeley School, Cambridge, Mass.
Wellesley College, A.B., 1896; Columbia University, A.M., 1903

Albert Edward McKinley, Professor of History, Temple College, Philadelphia, Pa.
University of Chicago, Ph.B., 1896; University of Pennsylvania, Ph.D., 1900

Frederic Austin Ogg..Teaching Fellow in History, Harvard University
De Pauw University, Ph.B., 1899; University of Indiana, A.M., 1900; Harvard University, A.M., 1904

LATIN

Nelson Glenn McCrea.....Professor of Latin, Columbia University
Columbia University, A. B., 1885, A.M., 1886, and Ph.D., 1888

Victor Dow Borst, Instructor in Latin, Hasbrouck Institute, Jersey City, N. J.
Cornell University, B.A., 1901

Anne Browning Butler, Teacher of Greek and Latin, Tudor Hall, Indianapolis, Ind.
Cornell University, B.A., 1902

Mario Emilio Cosenza, Tutor in the Latin Language and Literature, College of the City of New York
College of the City of New York, A.B., 1901; Columbia University, Ph.D., 1906

Charles Joseph Deghuée, Professor of Latin, Trinity School, New York, N. Y.
Columbia University, A.B., 1884, A.M., 1885, and L.H.D., 1886

John Francis Greene, Assistant Professor of Roman Literature and History, Brown University
Brown University, A.B., 1891, and A.M., 1901

Elizabeth Hazelton Haight.....Instructor in Latin, Vassar College
Vassar College, A.B., 1894, and A.M., 1899

Lillie Maria Lawrence..Assistant in Classical Philology, Barnard College
Columbia University, B.S., 1905

Dwight Ralston Little, Instructor in Latin, Polytechnic Preparatory School, Brooklyn, N. Y.
Williams College, A.B., 1900; New York University, A.M., 1903, and Pd.M., 1904

Grace Harriet Macurdy....Associate Professor of Greek, Vassar College
Radcliffe College, A.B., 1888; Columbia University, Ph.D., 1903

Katharine Campbell Reiley, Teacher of Latin and Greek, Veltin School, New York, N. Y.
Vassar College, A.B., 1895; Columbia University, A.M., 1902

Ida Carleton Thallon.....Instructor in Latin, Vassar College
Vassar College, A.B., 1897, and A.M., 1901; Columbia University, Ph.D., 1905

Elizabeth McJimsey Tyng, Teacher of Latin, Packer Collegiate Institute, Brooklyn, N. Y.
Cornell University, B.A., 1903; Columbia University, A.M., 1904

John William Henry Walden...Instructor in Latin, Harvard University
Harvard University, A.B., 1888, A.M., 1889, and Ph.D., 1891

John Calvin Watson.....Instructor in Latin, Cornell University
Harvard University, A.B., 1894, A.M., 1900, and Ph.D., 1902

MATHEMATICS

Robert Woodworth Prentiss, Professor of Mathematics and Astronomy, Rutgers College
Rutgers College, B.Sc., 1878, and M.Sc., 1881

Eleanor Robinson Baker, Teacher of Mathematics, St. Mary's School, New York, N. Y.
Vassar College, A.B., 1899

Charles Earle Biklé, Adjunct Professor of Mathematics, Teachers College, Columbia University
Dickinson College, A.B., 1886, and A.M., 1889

William Charles Brenke, Teaching Fellow in Mathematics, Harvard University
University of Illinois, B.S., 1896 and 1897, and M.S., 1899

William Henry Bussey.....Tutor in Mathematics, Columbia University
Northwestern University, A.B., 1900; Harvard University, A.B., 1901, and A.M., 1902; Chicago University, Ph.D., 1904

Randolph Foster Clark, Instructor in Mathematics, Collegiate School, New York, N. Y.
Williams College, A.B., 1900; State Normal College, Albany, Pd.B., 1902

Elizabeth Buchanan Cowley..Instructor in Mathematics, Vassar College
Vassar College, A.B., 1901, and A.M., 1902

John R. Gardner, Teacher of Mathematics, Irving School, New York, N. Y.
Upper Iowa University, B.S., 1890; State University of Iowa, C.E., 1894; Upper Iowa University, M.S., 1900

Ernest Herman Koch, Jr., Instructor in Mathematics, Pratt Institute, Brooklyn, N. Y.
University of Pennsylvania, B.S., 1897

Leslie Leland Locke, Instructor in Mathematics, Adelphi College, Brooklyn, N. Y.
Grove City College, A.B., 1896, and A.M., 1900

Wilfrid Ewart MacDonald, Instructor in Mathematics, Massachusetts Institute of Technology
University of Tennessee, A.B., 1901

Clarence Lemuel Elisha Moore, Instructor in Mathematics, Massachusetts Institute of Technology
Ohio State University, B.Sc., 1901; Cornell University, M.A., 1902, and Ph.D., 1904

Carl Eben Stromquist..Instructor in Mathematics, Princeton University
Bethany College, B.S., 1899; Yale University, Ph.D., 1903

Virgil Snyder....Assistant Professor of Mathematics, Cornell University
Iowa State College, B.S., 1889; University of Göttingen, Ph.D., 1894

Camille A. Toussaint....Assistant in Mathematics, Columbia University
Columbia University, A.B., 1903, and A.M., 1904

Mary Esther Trueblood, Instructor in Mathematics, Mount Holyoke College
Earlham College, Ph.B., 1893; University of Michigan, Ph.M., 1896

Roxana Hayward Vivian, Instructor in Pure Mathematics, Wellesley College
Wellesley College, A.B., 1894; University of Pennsylvania, Ph.D., 1901

Harrison Emmett Webb, Teacher of Mathematics, Stevens School, Hoboken, N. J.
University of Rochester, A.B., 1898

PHYSICS

Arthur Willis Goodspeed, Professor of Physics, University of Pennsylvania
Harvard University, A.B., 1884; University of Pennsylvania, Ph.D., 1889

Robert Arthur Bright, Instructor in Physics and Chemistry, Columbia Grammar School, New York, N. Y.
Yale University, Ph.B., 1896

Joseph Moore Jameson, Instructor in Physics, Pratt Institute, Brooklyn, N. Y.
Cornell University, Ph.B., 1893

Sidney Aylmer-Small, Teacher of Physics, Trinity School, New York, N. Y.
Columbia University, E.E., 1899

Frank Leo Tufts, Adjunct Professor of Physics, Columbia University
Antioch College, B.S., 1891; Harvard University, A.B., 1894; Columbia University, A.M., 1896, and Ph.D., 1897

SPANISH

Cornelia Hephzibah Bulkley Rogers, Associate Professor of Romance Languages, Vassar College
Wellesley College, A.B., 1884; Yale University, Ph.D., 1894

Luther Herbert Alexander, Tutor in French, College of the City of New York
Toronto University, A.B., 1883, and A.M., 1885

The work of the readers began at half-past nine a. m. on Tuesday, June 19. It was completed by the afternoon of Monday, July 2, thus occupying a period of exactly two weeks. The maximum time during which any single group of readers were occupied, however, amounted to only ten days.

It may be of interest to mention that the cost per candidate of reading and rating the answer-books was slightly less than last year, being $1.70 as against $1.79 in 1905.

The average number of books rated per hour by the readers was 8.1 as against 8.7 last year.

The following table gives statistics in regard to the number of answer-books read in each subject:

TABLE X

Subject	Number of Answer-Books Received	Number of Answer-Books Read a Second Time	Total	Number of Hours Spent in Reading	Average Number of Answer-Books Read per Hour
Botany	11	11	22	25	1.5
Laboratory books	8	8	16		
Chemistry	298	75	373	155	4.7
Laboratory books	281	75	356		
Drawing	202	98	300	25	12.
English	2521	1027	3548	477¾	7.4
French	1295	555	1850	283½	6.5
Geography	20	20	40	30	2.4
Laboratory books	16	16	32		
German	1260	494	1754	335	5.2
Greek	1083	501	1584	162½	9.7
History	1370	722	2092	363½	5.8
Latin	5693	2852	8545	667½	12.8
Mathematics	3327	1370	4697	618½	7.6
Physics	438	266	704	125	10.6
Laboratory books	395	229	624		
Spanish	19	8	27	10	2.7
	18,237	8327	26.564	3278¼	8.1

Results of the Examinations

The following table shows the number of candidates for each examination subject and the measure of success attained by them.

TABLE XI

	Number of Candidates	*Ratings* 90–100 %	*Ratings* 75–89 %	*Ratings* 60–74 %	*Ratings* 50–59 %	*Ratings* 40–49 %	*Ratings* 0–39 %	*Ratings* 60–100 %	*Ratings* 50–100 %	*Ratings* 40–100 %
English										
a. Reading	1380	2.9	17.0	39.9	21.0	13.2	6.1	59.8	80.8	93.9
b. Study	1141	1.0	15.7	42.0	15.2	13.1	13.1	58.6	73.8	86.9
	2521	*2.0*	*10.4*	*40.9*	*18.4*	*13.1*	*9.3*	*59.3*	*77.6*	*90.7*
History										
a. Ancient	403	0.5	8.2	31.1	21.8	13.2	25.3	39.7	61.5	74.7
b. Mediæval and Modern	50	0.0	4.0	30.0	18.0	16.0	32.0	34.0	52.0	68.0
c. English	437	1.4	8.9	31.6	14.6	14.2	29.3	41.9	56.5	70.7
d. American	480	4.8	20.2	35.0	15.8	10.8	13.3	60.0	75.8	86.7
	1370	*2.3*	*12.5*	*32.6*	*17.3*	*12.8*	*22.0*	*47.3*	*64.0*	*77.4*
Latin										
a. i. Grammar	1004	6.4	21.3	29.6	12.5	13.8	16.4	57.3	69.7	83.6
ii. Elementary Prose Composition	994	2.0	10.0	24.7	7.6	10.6	45.1	36.7	44.4	54.9
b. Cæsar	670	2.1	19.7	39.6	11.3	11.6	15.7	61.3	72.7	84.3
c. Cicero	859	2.8	18.0	31.4	10.2	14.0	23.5	52.3	62.5	76.5
d. Virgil	533	2.8	22.5	34.1	9.4	13.1	18.0	59.5	68.9	82.0
e. Nepos	30	0.0	26.7	13.3	6.7	20.0	33.3	40.0	46.7	66.7
f. Sallust	24	0.0	4.2	4.2	16.7	29.2	45.8	8.3	25.0	54.2
g. Ovid	25	0.0	4.0	16.0	8.0	16.0	56.0	20.0	28.0	44.0
l. Prose Composition	641	1.1	8.7	21.7	9.5	15.4	43.5	31.5	41.0	56.5
m. Elementary Sight Translation of Prose	742	6.5	25.1	26.6	8.6	12.4	20.9	58.1	66.7	79.1
p. Advanced Sight Translation of Prose	56	5.4	3.6	26.8	7.1	14.3	42.9	35.7	42.9	57.1
q. Sight Translation of Poetry	16	0.0	18.8	25.0	18.8	6.3	31.3	43.8	62.5	68.8
dq. Virgil and Sight Translation of Poetry	100	0.0	18.0	28.0	14.0	22.0	18.0	46.0	60.0	82.0
	5093	*3.4*	*17.5*	*29.0*	*10.0*	*13.2*	*26.9*	*49.9*	*59.9*	*73.1*
Greek										
a. i. Grammar	219	7.8	30.6	33.8	9.1	8.2	10.5	72.1	81.3	89.5
ii. Composition	215	2.8	19.1	27.4	7.0	9.8	34.0	49.3	56.3	66.0
b. Xenophon	188	2.1	19.7	38.3	11.2	15.4	13.3	60.1	71.3	86.7
c. Iliad I–III.	67	1.5	28.4	43.3	6.0	7.5	13.4	73.2	79.1	86.6
f. Prose Composition	158	3.8	15.2	17.1	12.0	9.5	42.4	36.1	48.1	57.6
g. Sight Translation of Prose	158	1.9	15.2	20.9	8.9	15.2	38.0	38.0	46.8	62.0
h. Homer at Sight	6	0.0	0.0	33.3	0.0	16.7	50.0	33.3	33.3	50.0
ch. Iliad I–III, and Sight	72	0.0	19.4	31.9	13.9	12.5	22.2	51.4	65.3	77.8
	1083	*3.4*	*20.9*	*29.5*	*9.5*	*11.3*	*25.5*	*53.7*	*63.3*	*74.5*
French										
a. Elementary	854	2.9	21.8	41.0	13.3	9.6	11.4	65.7	79.0	88.6
b. Intermediate	388	0.5	3.9	39.7	21.9	15.2	18.8	44.1	66.0	81.2
bc. Intermediate and Advanced	53	1.9	3.8	9.4	26.4	15.1	43.4	15.1	41.5	56.6
	1295	*2.2*	*15.7*	*30.3*	*16.4*	*11.5*	*14.9*	*57.1*	*73.0*	*85.1*
German										
a. Elementary	853	3.4	27.4	33.8	13.2	9.1	13.0	64.6	77.8	87.0
b. Intermediate	348	1.7	15.2	37.6	17.2	14.4	13.8	54.6	71.8	86.2
bc. Intermediate and Advanced	59	1.7	10.2	30.5	10.2	15.3	32.2	42.5	52.5	67.8
	1260	*2.9*	*23.3*	*34.7*	*14.2*	*10.9*	*14.1*	*60.8*	*75.0*	*85.0*
Spanish	19	5.3	26.3	26.3	21.1	15.8	5.3	57.9	78.9	94.7

TABLE XI (Continued)

	Number of Candidates	*Ratings* 90-100 %	*Ratings* 75-89 %	*Ratings* 60-74 %	*Ratings* 50-59 %	*Ratings* 40-49 %	*Ratings* 0-39 %	*Ratings* 60-100 %	*Ratings* 50-100 %	*Ratings* 40-100 %
Mathematics										
a. Elementary Algebra	1180	17.7	31.1	26.2	9.2	7.2	8.6	75.0	84.2	91.4
i. To Quadratics...	235	13.2	19.6	26.4	11.9	11.9	17.0	59.1	71.1	83.0
ii. Quadratics, etc...	99	2.0	25.3	26.3	18.2	15.2	13.1	53.5	71.7	86.9
b. Advanced Algebra...	86	1.2	9.3	16.3	23.3	12.8	37.2	26.7	50.0	62.8
c. Plane Geometry.....	1069	17.4	21.5	22.9	10.1	10.4	17.7	61.8	71.9	82.3
d. Solid Geometry.....	133	6.0	21.8	34.6	12.8	9.0	15.8	62.4	75.2	84.2
cd. Plane and Solid Geometry.....	224	11.2	22.8	28.6	14.3	10.3	12.9	62.5	76.8	87.1
e. Trigonometry.....	184	1.1	16.8	35.3	16.3	14.7	15.8	53.3	69.6	84.2
f. Plane Trigonometry..	108	1.9	6.5	27.8	14.8	16.7	32.4	36.1	50.9	67.6
g. Spherical Trigonometry.....	9	11.1	0.0	33.3	22.2	22.2	11.1	44.4	66.7	88.9
	3327	*14.0*	*23.9*	*26.0*	*11.4*	*10.0*	*14.8*	*63.9*	*75.3*	*85.2*
Physics.....	302	1.5	14.8	34.2	13.3	19.4	16.8	50.5	63.8	83.2
Chemistry..	281	3.9	31.7	37.7	8.9	10.0	7.8	73.3	82.2	92.2
Botany.....	8	0.0	12.5	12.5	0.0	12.5	62.5	25.0	25.0	37.5
Geography.....	16	0.0	25.0	62.5	6.3	6.3	0.0	87.5	93.8	100.0
Drawing.....	202	3.0	7.4	41.1	14.9	11.4	22.3	51.5	66.3	77.7
Total.....	*17467*	*5.0*	*18.7*	*32.0*	*13.0*	*12.2*	*19.2*	*55.7*	*68.7*	*80.9*

Candidates succeeded in obtaining a rating of 100 in very few examination subjects. A rating of 100 per cent. was obtained in Latin grammar by three candidates; in elementary Latin prose composition by one candidate; in elementary algebra complete by twenty candidates; in algebra to quadratics by twelve candidates; in plane geometry by thirty-three candidates; in solid geometry by two candidates; in plane and solid geometry by two candidates; in physics by one candidate, and in drawing by two candidates.

The following table shows the highest rating obtained in each subject together with the total number of candidates offering the subject:

TABLE XII

Subject	Number of Candidates	Highest Rating	Subject	Number of Candidates	Highest Rating
English a	1380	97	French a	854	97
b	1141	98	b	388	92
History a	403	94	bc	53	90
b	50	75	German a	853	98
c	437	96	b	348	96
d	480	97	bc	59	92

TABLE XII (Continued)

Subject	Number of Candidates	Highest Rating	Subject	Number of Candidates	Highest Rating
Latin a i	1004	100	Spanish	19	93
a ii	994	100	Mathematics a i	235	100
b	670	97	a ii	99	95
c	859	96	a i & ii	1180	100
d	533	96	b	86	90
e	30	80	c	1069	100
f	24	79	d	133	100
g	25	75	cd	224	100
i	641	95	e	184	90
m	742	95	f	108	92
p	56	90	g	9	90
q	16	82	Physics	392	100
dq	100	87	Chemistry	281	95
Greek a i	219	97	Botany	8	82
a ii	215	93	Geography	16	83
b	188	93	Drawing	202	100
c	67	90			
f	158	95			
g	158	95			
h	6	65			
ch	72	87			

The average number of ratings per candidate this year was 7.2 as against 7.8 last year, 8.4 in 1904, and 8.8 in 1903.

The following table institutes a comparison between the results of the six years during which the Board has been in existence:

TABLE XIII

Ratings	1901 per cent	1902 per cent	1903 per cent	1904 per cent	1905 per cent	1906 per cent
90-100	7.1	6.7	6.3	6.1	4.5	5.0
75-89	20.2	17.8	20.0	21.4	20.3	18.7
60-74	32.0	31.4	31.9	32.6	31.4	32.0
50-59	11.2	12.4	11.8	12.1	12.4	13.0
40-49	11.7	12.4	11.1	11.1	12.2	12.2
0-39	17.8	19.4	18.9	16.7	19.1	19.2
60-100	59.3	55.9	58.2	60.1	56.2	55.7
50-100	70.5	68.3	70.0	72.2	68.6	68.7
40-100	82.2	80.6	81.1	83.3	80.8	80.9

Financial

The following financial statement covers the operations of the Board during the twelve months ending August 31, 1906:

TABLE XIV

RECEIPTS

Balance on hand September 1, 1905	$ 3,777.44	
1. Sales of volumes of examination questions	418.66	
2. Sales of printed documents	37.50	
3. Sales of duplicate certificates	210.00	
4. Examination fees	13,081.00	
		$17,524.60

EXPENDITURES

A. Office of the Secretary:		
1. Salaries	$ 2,515.00	
2. Printing	884.75	
3. Stationery and incidentals	141.43	
4. Postage and expressage	576.19	
5. Clerical and other assistance	978.85	
6. Furniture and fixtures	188.26	
		$ 5,284.48
B. Conduct of examinations:		
1. Examiners		
Salaries	$ 955.00	
Expenses	243.32	
	$1,198.32	
2. Readers		
Salaries	$3,283.75	
Expenses	860.11	$4,143.86
3. Supervisors and proctors		
Expenses	829.50	
4. Examination Supplies		
Question papers, answer-books, logarithmic tables, maps, envelopes, etc	1,228.83	
5. Postage and expressage	296.61	
		$ 7,697.12
Total expenses		$12,981.60
Balance on hand		4,543.00
		$17,524.60

The expenditures of the Board during the twelve months ending August 31, 1906, show an increase over the expenditures of the previous fiscal year amounting to $1,626.74. The corresponding increase in the number of candidates examined amounts to 355. It follows therefore that under existing conditions each new candidate costs the Board $4.58, which is in tolerably close conformity with the estimate made in the last Annual Report.

Respectfully submitted,

THOMAS S. FISKE, *Secretary*

September 1, 1906

IV

REVIEWS

The German universities and university study—By FRIEDRICH PAULSEN, Professor of Philosophy in the University of Berlin—Authorized translation by Frank Thilly, Professor of Psychology in Princeton University, and William W. Elwang. New York: Charles Scribner's Sons, 1906. 451 p. $3.00.

A volume might be written in praise of this admirable book. A second volume might be written on the thoughts concerning American higher education which it suggests. It will at once be accepted as the authoritative book on its subject. Fortunately the translation effectively preserves some of the best qualities of Paulsen's very readable style.

No topic in any way connected with German university organization, administration, and work, fails of mention and careful treatment. The historical material is illuminating and suggestive, and the concrete illustrations of various tendencies and practices are numerous and helpful.

We are more disposed to comment briefly upon some of the suggestions for our American universities that are contained in Paulsen's pages than to dwell in detail upon specific excellences of the book itself. How many Americans know what a university is, or appreciate its relation to the nation's life? Why is it that Chicago, Columbia, Harvard, and Johns Hopkins (naming them in alphabetical order) are by European observers put in a class by themselves, and judged and considered apart from all other American institutions of the higher learning? It cannot be because of their age, for Chicago and Johns Hopkins are young; it cannot be on account of their size, for Johns Hopkins is small. Is it lack of humor, is it stupidity, or is it sheer vanity, that dots the United States over with "universities," a few score of which might make respectable colleges and the rest more or less indifferent secondary schools?

The truthful and adequate answers to these questions would throw a flood of light upon our national intellectual standards and insight. They would go far to put an end to the farce of four "universities" in the city of New Orleans, five in the city of Nashville, and eleven in the State of Ohio. If every trustee and every professor of every American "university" would read Paulsen's book thoughtfully, he could hardly be restrained from organizing a movement to change the name of his institution. Even the Association of American Universities might, in that case, have to part with some of its members.

The chief lesson of Paulsen's book is the true significance of the university as an institution of civilized man, the jealousy with which the name should be guarded from debasement and improper use, and the zeal with which the university ideal should be followed, lead where it may. German public opinion knows what the word university means; American public opinion does not. In consequence, the university has a definite and responsible status in Germany, while in America it is still engaged in defining itself to itself. Being a younger people than the Germans and having had difficult and peculiar problems of our own to solve, we Americans cannot fairly be criticised for not having as yet developed universities in all respects equal to theirs. We are open to the sharpest criticism, however, for deliberately degrading and misapplying a great name, and thereby making ourselves a laughing-stock.

Writers and speakers who are not accurately informed are in the habit of contrasting unfavorably the position and influence of the American university professor with that of his German contemporary. If the comparison is confined to those American institutions that are real, and not merely nominal universities, the American professor will not fare badly in the contrast. In regard to the appointment to professorships, for example, Paulsen has some very instructive comments on the German practice (pp. 83-86), and it is easy to draw the lesson for America by substituting "trustees and president" for "the government."

Paulsen is in the highest degree fair and discriminating in his treatment of the problems incident to combining research

with instruction. He sees the temptation to pseudo-productivity and to lead students to specialize too early. Nevertheless, he holds fast to the incontestable fact that only by combining research with instruction can a university exist at all.

In concluding his historical retrospect of the development of the German university (pp. 66-67), Paulsen drops a most interesting hint as to the possible significance of the undercurrent of hostility to the scientific activity of the universities which is just now perceptible. Science has not been able to redeem its promise to supply a complete and certain theory of the universe, in place of those which theology and philosophy formerly offered. Disappointment has resulted, for it is more and more evident that science cannot give a comprehensive world view that will satisfy both feeling and imagination. "It only discovers thousands of fragmentary facts, some of them tolerably certain, especially in the natural sciences, which at least supply a basis for practice; some of them forever doubtful, forever capable of revision, as in the historical sciences. . . . Science does not satisfy the hunger for knowledge, nor does it supply the demand for personal culture. It demands the investment of one's full strength and offers but scant rewards. . . . Is it [this disappointment], as a few think, the premonitory symptom of the bankruptcy of science, its abdication in favor of faith? Or is it rather a natural demand for ideas, the long-suppressed demand for philosophy that is coming to life again, but is not yet quite sure of its path and goal?"

This is not the least noteworthy passage in a noteworthy book.

A first view of English literature—By WILLIAM VAUGHN MOODY and ROBERT MORSS LOVETT. Illustrated. New York: Charles Scribner's Sons, 1905. vi + 386 p. $1.00.

This book has the merits and the defects of the same authors' more advanced *History of English literature*, on which it is founded. It is a series of brilliant monographs on the leading poets and prose writers of Great Britain; but most writers of the second and third rank are eliminated from the discus-

sion. The authors disarm criticism by admitting this, in their preface; it therefore remains for the teacher to decide whether or not that is the kind of text-book he wants. Certainly the work has the merit of making the study of literature seem a very easy and attractive thing; by no stretching of terms, however, can the *View* be called thoro. Moreover, as in the *History*, the suggestiveness of the writing is expected to atone for lack of definite statement, dates, etc. This is stimulating in the extreme, but, it is to be feared, to the scholar of mature years, rather than to the high-school student, who may lose himself in the realm of vagueness so delightful to a certain type of mind. Yet this sort of guide, it may be said again, will be of assistance to the teacher who knows and can impart the knowledge of detail here somewhat lacking; others, perhaps, will miss the firm footing supplied by other text-books less thoughtful and less literary in point of view.

The plan of the book is neat and, within its limits, commendable. The discussion of periods is prefaced by a history of England during the time under consideration, tendencies in life and thought are clearly defined, foreign influences are pointed out, and the student can see exactly what were the circumstances shaping the lives and characters of the great authors he is to deal with. Furthermore—and this is the real value of the book—masterpieces of literature are analyzed and criticised at great length and with real charm and discrimination. Tabular views follow the main discussion of the separate chapters, and in these some men that other critics have thought important—Elizabethan dramatists like Webster and Heywood, and nineteenth century writers like Hazlitt, Landor, the Rossettis, Pater, etc.—are allowed to raise their diminished heads among their more fortunate fellows discussed in the main body of the work. The book is attractively printed and is illustrated by twenty-five portraits.

G. C. D. Odell.

Columbia University

V

NOTES AND NEWS

The Schools and the Unemployed

In a recent letter to the London *Times* the Warden of New College, Oxford, raised the question as to a possible relationship of cause and effect between the shortcomings of the elementary school systems and the unemployed. A few days later Dr. T. J. Macnamara, the well-known educationist and member of Parliament, took up the subject and offered some comments and suggestions that are as pertinent in America as in England. Dr. Macnamara wrote:

> Year by year, I suppose, not less than two hundred thousand boys leave the elementary schools. . . . They are between the ages of twelve and fifteen, and have reached from the fifth to the seventh standards. They have received a thoro, if rudimentary, general education, upon which with the greatest ease skilled handicraftsmanship could be superimposed if taken in hand at once. In the great bulk of cases, however, the exigencies of the little home circle of which they are members demand that they shall go to "a little place of work" as wage-earners at once. They therefore become van boys, errand boys, messengers, and so on, at from 6s. to 8s. a week. In this capacity they learn no handicraft whatever. After two or three years the wage the little place provides begins to be considered too small. They want more, fail to get it, are replaced by other small boys, and seek more remunerative employment elsewhere. Being wholly unskilled, they find the task of securing further employment very difficult, lounge about for a year or two as unemployed, and by-and-by in very many cases—as a result, of course, of environment—drift into the steadily growing ranks of the unemployable. Thus, under twenty years of age, you have at any one time a steadily-recruited army of a million and a half young fellows—the figures are well inside the mark—whom our present system has thrust deliberately into the hopeless army of the unemployed and unemployable. In the textile areas the problem is less acute; in London and other great centres, where there is no great all-embracing industry compelling a certain amount of technical skill, the matter is of the gravest social importance. It represents, in my opinion, with other social shortcomings of course, the most pregnant cause of unemployment in this country at this time.

Dr. Macnamara is right, and the conditions that he so clearly states and analyzes exist in full force on this side of the Atlantic. Their results would be speedily and strongly felt in a period of financial and commercial stringency and depression.

The one remedy is the establishment of trade and technical continuation schools, and our city and town school boards should set about the solution of this problem before it grows harder. Doubtless some help will be found in the forthcoming report of Dr. Macnamara's own commission of inquiry, concerning which he writes:

> The question is, What is to be done? Early in the present year the Plumbers' Company organized a representative gathering at the Guildhall over which Viscount Selby presided. Great employers of labor, trade union representatives, and educationists were present; and a resolution, which I had the honor to submit to the conference, was adopted expressing the view that a real endeavor should be set on foot to spread again amongst the operative classes the knowledge of handicraft and to revive under modern conditions what I may call a national system of apprenticeship. Since that time a committee appointed by the conference has met from time to time in the House of Commons. Amongst its members are Sir Henry Hibbert, Sir Horace Plunkett, Mr. Priestley, M. P.; Mr. Jowett, M. P.; Sir Henry Craik, M. P.; myself as chairman, and Mr. Coles, of the Plumbers' Company, as secretary. We have prepared a report for submission to the Guildhall Conference—which I hope will be reconvened just before Parliament meets—containing a number of practical suggestions designed, as I say, to encourage the spread of handicraft and widely extend the facilities for technical training. And a most interesting feature of our deliberations has been the fact that thruout we have had the most valuable support from the labor leaders amongst our members.

The Limitations of Scientific Imagination

Apart from its intrinsic interest the discussion concerning radium, which arose at the meeting of the British Association and which has been continued during the past week in *The Times*, serves the useful purpose of settling a much older controversy. For it can no longer be held that the study of natural philosophy fails as a means of developing the imaginative faculties. Indeed, among all the themes presented by the "humanities" it would be difficult to find a conception as extravagant and as curiously supported as is the theory that the thermal energy of the earth is to be attributed to a substance so fugitive that its properties in the bulk have never been observed, and so rare that it is secured only in milligrams. With the increase of facilities such as are offered by the British Association and by kindred bodies for publishing to the world the results of scientific research, it is to be expected that occasionally the opportunity will be

taken to give utterance to immature expressions of opinion regarding what is merely possible. This can only be checked by limiting the writers of papers in a greater measure than is now done to statements of experimental results. The discussion is a timely illustration of the danger of departing from those principles of research whose establishment gave the impetus to the investigators of the latter half of the 19th century, and which at the instance of Lyell brought geology itself into line with engineering and the allied sciences. While admitting that active theorizing is essential as a directive element in physical research, the aim must be to balance the imagined against the observed phenomena, allowing experiment so far as possible to speak to the world for itself.

Lord Kelvin, in a letter to *The Times* of Monday, leads the matter out of the region of conjecture back into the laboratory by calling attention first to the observed *slowness* with which helium is extracted from radium. He also reminds the controversialists that after a certain amount of helium has been removed from a sample of radium a further supply can, after an interval, be extracted; and that some helium remains in the modified sample of radium. Lord Kelvin considers that this is thoroly in accordance with Rutherford's suggestion that "uranium, thorium, and radium are in reality compounds of helium"; and more particularly "that radium (atomic weight 225) may be a compound of four atoms of helium (atomic weight 4×5), and one atom of lead (atomic weight 205)." Having indicated the significance of this evidence, he proceeds to cite the estimate, by Rutherford, that the duration of radium as a source of energy is not more than a few thousand years; and he concludes that the assumption that uranium, thorium, actinium, "and other matters capable of being 'transformed slowly into radium' constitute a sufficient store of energy for sun-heat and underground heat," is not validly supported by any experimental evidence hitherto published. A further aspect of the question is manifested by comparing the experimental results described in the discussion by Sir William Crookes with those of Sir William Ramsay, as reported in *The Times* of August 8. Nobody can doubt the respective powers of these two experimentalists; and yet, proceeding along different lines towards the study of the effect of restricting the emission space in the case of radium, they arrive at diametrically opposite conclusions. While a doubt exists as to why the effect of locking up radium in a box should differ from the effect of enclosing it in the bulb of a thermometer, it appears to be vain to take up the time of the British Association with speculations as to what part it plays in the thermal history of the earth, at unfathomable depths, at inscrutable pressures, and at temperatures entirely unknown.—The London *Times*, August 22, 1906.

Albert G Lane

The startling announcement, on August 23, of the death of Albert G. Lane, district superintendent of schools in Chicago, brought with it a sense of grief and personal loss to, literally, thousands of

persons. In Chicago, in Illinois, and in the wider circle of the National Educational Association, Mr. Lane had been for more than a generation a central figure. No one of her merchant princes or railway magnates ever began to do for Chicago the great service that Mr. Lane has done thru a life filled with patient, devoted, and unselfish service for the city's children and the city's citizenship. Determined but never aggressive, sincere without being dogmatic, and persuasive with no trace of demagogery, Mr. Lane was a tower of strength. He was almost universally liked and universally trusted. The small group of destructive workers in Chicago, who for a few years past have criticised and attacked both Mr. Lane, his high ideals, and his trusted associates, only increased the general esteem in which Mr. Lane was held both in Chicago and thruout the country.

For the National Educational Association, the loss of Mr. Lane is the most severe with which it could meet. Since his retirement from the presidency in 1894 he has been a member of the Board of Trustees, and the executive officer of that board during the intervening years. To Mr. Lane far more than to any other man, or body of men, is due the present most satisfactory state of the Association's permanent fund. The wise handling of the unfortunate investments made in earlier years, and the admirable choice of new securities, were both his personal doing. The Association repaid his loyal service with its unfailing confidence and affection.

Not many months ago a well-known citizen of Chicago died, leaving a vast fortune behind him. It was chiefly in money and in money-values. Mr. Lane leaves to his city a far richer legacy—a pure and good life lived for his fellows, and an upright character tested and tried in every furnace that tempers the human heart.

Superintendent Chancellor

Just as the last issue of the REVIEW went to press, it was announced that the new school board in Washington, D. C., had unanimously chosen William E. Chancellor, for several years past superintendent of schools at Paterson, N. J., to the superin-

tendency. This is a happy omen for the schools of the Capital City, and a return to the educational traditions that prevailed so long under Mr. Powell. Mr. Chancellor's election is a clear intimation that hereafter the public schools of Washington are to be administered upon an educational, and not upon a political or a personal, basis. Mr. Chancellor has had excellent training and experience; he possesses a will of his own and uses it for the accomplishment of high purposes; he is an eager student of education and its literature, as well as a prolific contributor to it. The choice is a capital one, and both Washington and the country are to be congratulated upon it.

A Commercialized College

We are now convinced by indisputable evidence, that at least one institution in the United States, called a college, is commercialized. It is not just now a very conspicuous college, but it ought to be.

This judgment is based upon a letter, reproduced below, which has come to us thru the principal of the New England high school to which it was addressed. It tells its own story. The italics are ours.

The EDUCATIONAL REVIEW can express its "thought of the proposition" in the one word shameful.

——— COLLEGE, March 29, 1906

DEAR SIR: Some days ago, I mailed you a copy of our testimonial booklet, also a copy of our new catalog. The same books were addressed the senior class of your school, in your care. It may be some time before the young lady is known who will be entitled to the scholarship offered. As soon as the matter is decided, kindly advise me.

A number of schools have written me their acceptance of the scholarship, and, in one instance, the young lady has been selected. I feel quite sure the method adopted will give us a most excellent grade of pupils and a most representative class of patrons. This assurance is suggestive of another matter that I am inclined to present for your consideration. So highly do I appreciate and value the judgments of our Principals of public schools, that I shall ask a few of them if they will not coöperate with me just a little further—but in this I do not wish to be a burden. I shall be glad to have them investigate the merits of the ——— College, and if they find it worthy, commend it to prospective pupils and patrons.

These principals have the best opportunities of any class of people to know the young ladies of their sections who contemplate going away to

school, and are the best judges as to who would make desirable pupils and patrons.

I shall offer you, as also each of the Principals who will thus favor me, $50.00 for each pupil whose application you send me—money to be paid you on entrance of pupil in the fall. Of course, the young lady accepting the scholarship cannot be reckoned in this proposition.

I make the offer, as I cannot presume to ask your word and influence for nothing.

I am now taking out less magazine advertising than usual, preferring to use the money in the way indicated. We feel sure in this way we shall have a more representative class of pupils and patrons—and we shall have the Principals to thank for it, if they will coöperate with us.

If you are willing to thus represent us, I shall be pleased to mail you some additional books, and a few application blanks. In the space of six weeks summer before last, a gentleman secured nine pupils for the school. I am sure with but little effort you would do well.

Kindly let me know your thought of my proposition, and if you can consider favoring me.

Most cordially yours